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The Health Magazine of the American Medical Association

HYGEIA

DECEMBER · 1941 · 25c

THERE *IS* A SANTA CLAUS!

see page 967

Your doctor seldom meets a new "acquaintance"

How does your physician know the cause and nature of an illness? He knows because a large proportion of his education and training—in school, in hospital, and in subsequent study and practice—has been devoted to recognizing the significance of the "clues" each disease presents.

This phase of his training—the recognition of diseases from their outward signs and inward symptoms—received special emphasis during his years as a hospital intern. Here he was given the task of taking the case histories of hundreds of patients. He talked with them, examined them, and reviewed the whole of their medical history. Later he visited these patients with the attending physician, studied their charts, assisted in the treatments that were prescribed. He trained his eyes and his ears, he refined his sense of touch, until each became a delicate instrument for diagnosing illness.

In the course of his long experience your physician has probably encountered nearly every kind of ailment, not once but many times. Thus it is that in diagnosing diseases today he so seldom meets a new "acquaintance"—or even an old acquaintance in a new disguise that he cannot unmask, especially with such modern scientific aids as the x-ray and the laboratory.

This is the reason your physician knows. This is the reason you can rely on the physician—and *only* on the physician—for the best possible advice whenever your own or your family's health is concerned.

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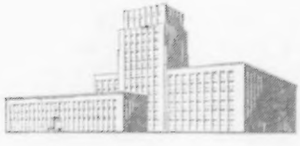

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BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

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FORECAST

If findings for men of college level in a recent study of Civilian Conservation Corps enrollees indicate the convictions of their fellows, over half of them believe what their grandmothers told them. It is difficult to believe only what we should about our bodies and general health. We have inherited superstitions from our ancestors; magazines and the radio constantly bombard us with sales-boosting axioms about teeth, weight, digestion and vitamins.

George A. Walker and Eleanor Saltzman enumerate "False Health Notions in the CCC," in the January issue.

Were a foreigner to judge Americans, he would assume that we all suffer from headache, sour stomachs and constipation. The sight of a druggist's counter, groaning under its load of purges, cathartics and laxatives, and his windows filled with enema bags, confirms the impression that our race spends no inconsiderable amount of time, thought and money in dealing with the functions of the bowel.

Victor W. Logan, M.D., reports on "Mineral Oil as a Laxative."

In New York there's an employment bureau which has been making a different kind of medical headline news. Wholly on its own initiative this employment agency—unique in health annals—tackled the problem of insuring the city only healthy domestics in the home.

When the Bureau of Part-Time Work launched its city-wide movement last year to educate housewives to ask for health references, New Yorkers were frankly skeptical.

But pediatricians in New York and elsewhere welcomed the Bureau's plan as a hopeful new signpost along the road of a twenty year old campaign.

Julietta K. Arthur explains why "Bridget Goes to the Doctor."

The idea of "skin peeling" is extremely attractive to many people. If the skin which covers the face is unwelcome because of color or lack of color, blemishes such as enlarged pores or blackheads, or if there are scars in the form of pimples, the promise of new skin is rarely resisted.

Next month, Herman Goodman, M.D., discusses "Skin Peeling."

HYGEIA

THE HEALTH MAGAZINE

535 N. DEARBORN ST., CHICAGO, ILL.

Published and copyrighted, 1941, by the American Medical Association. Edited by Morris Fishbein, M.D.

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HYGEIA, The Health Magazine, is published monthly by the American Medical Association, 535 N. Dearborn Street, Chicago, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Single copies, 25 cents. Volume 19, Number 12. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103 Act of October 3, 1917, authorized March 21, 1923. Printed in U. S. A.

Unsolicited manuscripts will be considered by the Editor but must be accompanied by a stamped self addressed envelop to insure return if rejected. Manuscripts should be typewritten, double-spaced, and the original, not the carbon copy submitted. All rights reserved.

Robert at 2½ building sound teeth

His milk and vegetables give him important minerals to build sound teeth, but he needs extra Vitamin D besides, to help utilize these minerals for tooth building. So does your baby. Start him now on Squibb Cod Liver Oil. Give it regularly every day.

at 2-a straight strong back

Notice his strong back, his straight legs. Especially in winter, when sunshine may not supply enough Vitamin D, every baby needs a reliable source daily. Give your baby the help of Squibb Cod Liver Oil regularly. It's an important aid to sound development of the entire framework.

at 8 months getting daily help

Lucky baby! Right from birth, his mother realized the importance of giving him enough Vitamin D to help develop his bones and teeth soundly! This shows how beautifully his head and chest were developing at eight months.

let this seal be your guide!

There's a difference in cod liver oils—a difference you can't see because it depends entirely on vitamin content. With Squibb Cod Liver Oil, your baby gets *twice* as much Vitamins A and D in every teaspoonful as with a cod liver oil which meets minimum requirements of the U. S. Pharmacopeia. When you see the Squibb seal, you know that you are getting your money's worth in these vitamins. Ask for Squibb's at any drug store. . . . *The priceless ingredient of every product is the honor and integrity of its maker.*

SQUIBB COD LIVER OIL

"The Adcomber"

looks at Hygeia ads

A cardinal rule for mothers-to-be, they say, is: Ask your doctor—and ask again! Above all, *ask his advice on infant feeding.* He may suggest . . . (page 1014).

"What's in a name?" A lot sometimes. For instance, that priceless vitamin that goes by the unhappy name of Nicotinic Acid does have to be explained at times. Too bad, too! For Nicotinic Acid is one of those VALUABLE NUTRIENTS which have been added to Enriched Bread. Others have been added, too . . . page 999.

Children's feet really get a square deal in "Cuddle-Back" shoes. For "Cuddle-Backs" feel better . . . last longer . . . look neater from the start. Note: "Cuddle-Backs" come on Trimfoot Pre-School Shoes, as illustrated, page 1015.

For reducing all those interesting grown-up foods down to baby size, you can do *wonders* with a Foley Strainer or Foley Food Mill. Just a few turns, and baby has a full-flavored meal of nutritious fresh vegetables, fruits, soup, liver. Page 998.

It's fun to take a chance—on a $20,000 house, say—or anything you COULD do without. But Your Eyes don't fall in that category. *For Your Eyes' sake,* make a mental note of the two important questions and answers on pages 1010 and 1011.

Note the tasty dishes tailored for the toddler — by Heinz — page 989. They're designed to tempt the "intermediate's" appetite, and—most important!—start him chewing. Rich in vitamins, too.

Here's a tooth brush that meets high quality and design standards AND—costs so little you can change to a fresh one a dozen times a year or oftener . . . *with a clear conscience!* Believe it or not, the price of a real Takamine is only .... (page 991).

You'll stand up and cheer when you hear HOW TO GET A FREE $2.00 PRE-TREATMENT WITH YOUR NEXT PERMANENT WAVE . . . page 1009. AND DO look now!

"Let a little sunshine in" from Florida these days . . . via the pure grapefruit and orange juices of Dr. Phillips. They'll bring you three lusty vitamins, too, as named on page 1000.

Mothers, attend! Comfort for baby, sanitary protection for his crib, and easier laundry for you—are all woven into one in this fine, absorbent, completely waterproof "sani-sheet." Details on page 1014.

THE ADCOMBER

Who's Who IN HYGEIA

PHILIP S. PLATT, Ph.D., author of "Honolulu's Hull House," page 968, is director of Palama Settlement, Honolulu, Hawaii. He was born in Scranton, Pa., 1889, and studied at Hill School. From Yale University he received his B.A. in 1912, his M.A. in 1913 and his Ph.D. in 1927. He received his Certificate of Public Health from Massachusetts Institute of Technology—Harvard University in 1920. He is the father of two children, Marjorie and David.

Dr. Platt was Superintendent, Bureau of Public Health and Hygiene, New York Association for Improving Conditions of the Poor, 1914-16; public health delegate, Committee for Relief in Belgium 1916-17; special Assistant American Ambassador, Petrograd, 1917; chief, Educational Division, Children's Bureau, American Red Cross, Paris, 1917-18; 1st Lieutenant, Sanitary Corps, A.E.F., 1918; American Relief Administrator, Prague, 1919; director, New Haven Health Center, 1920-23; associate director, Research Division, American Child Health Association, 1923-26; assistant director, New York Tuberculosis and Health Association, 1926-29; and director of Palama Settlement since 1929.

WILLIAM H. LIPMAN, M.D., author of "United States Meat Inspection, page 983, received his medical education at the College of Physicians and Surgeons, University of Illinois. He joined the medical staff of Swift and Company in 1905 and has been its medical director since 1910.

In addition to looking after the health of employees, Dr. Lipman soon became interested in the sanitary production of meat and meat products, and made a study of meat inspection as conducted in this country and Europe. He became thoroughly familiar with the Meat Inspection Act passed by Congress in 1906 and its scientific and technical application. He has contributed a number of articles on meat inspection to medical and other scientific journals.

He is a member of the Chicago Medical Society, Illinois State Medical Society, American Medical Association, American Public Health Association, and the National Tuberculosis Association.

His hobbies are football, the stage and reading biographies.

ALPHONSE M. SCHWITALLA, S. J., author of "Man's Debt to Medicine," page 960, has been dean of the St. Louis School of Medicine since 1927, president of the Catholic Hospital Association of the United States and Canada since 1928, professor of Biology and director of the department, St. Louis University since 1924; and editor of *Hospital Progress* since 1928.

Father Schwitalla was born in Beuthen, Upper Silesia, Germany, in 1882. He entered the Jesuit Order, Missouri Province, Florissant, Mo., in 1900 and he was ordained a Priest in 1915. He received his bachelors degree from St. Louis University in 1907, his master's degree from the same university in 1908; his Ph.D. from Johns Hopkins University in 1921; his LL.D. from Tulane University, New Orleans, in 1938; and his Sc.D. from Lawrence College in 1939.

During World War 1, Father Schwitalla was Knights of Columbus War Chaplain, 1918-19. At present he is a Major, Chaplain's Reserve, United States Army, since 1925, and a member of the Chaplain's Association of the Army of the United States.

He has traveled widely in the United States, Canada and Europe; and also accompanied the St. Louis University Expedition for the Study of Tropical Diseases to Central America in 1915.

Among his special interests are: Biology, Sociology, medical education, hospital administration and nursing education.

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the world . . . the gift of sight.

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PUBLISHED IN THE INTERESTS OF BETTER VISION BY THE SOFT-LITE LENS COMPANY • SQUIBB BUILDING, NEW YORK

YOU had it once, no doubt—that fresh-winsome complexion—YOUR VERY OWN. Perhaps you lost it in the hustle-bustle of bargain counter cosmetic buying and hit-or-miss makeup. You can find it again, despite the apparent coarsening of pores and skin irritations from unsuitable cosmetics.

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LETTERS FROM *Readers*

From Cover to Cover

To the Editor:

I was most interested in the publicity on your forthcoming issues of HYGEIA. You may be sure that I will read them from cover to cover, as is my usual custom. My department at the University of Oklahoma has two subscriptions.

I have used HYGEIA frequently for reference in my classes in Remedial Physical Education.

ELLEN KELLY

Norman, Okla.

Sex Education for the Preschool Child

To the Editor:

I am in hearty agreement with a letter written by Mary Greenleaf Brandt, commenting on the article, "Sex Education for the Preschool Child."

No one would attempt to teach a preschool child algebra or foreign languages. These subjects are just about as practical for a preschool child's age as is adult sex information.

It is generally conceded that there are different ages for different teachings, so why try to cram a child's mind with facts beyond his years?—facts which he has plenty of time to learn later.

JENNIE O'BYRNE

Dallas, Texas

Clinics for the Childless

To the Editor:

In the October HYGEIA there appeared an article entitled "Clinics for the Childless" by J. D. Ratcliff. The article was reprinted in the *Reader's Digest* for October 1941.

From this article I quote as follows:

"Since Biblical times it had been customary to place blame for sterile marriages on the woman. Not until 1916 did Dr. William H. Cary, pioneering New York physician, collect evidence to blast this notion. His research indicated that the male is responsible in one third of the childless marriages. Since Cary's original work dozens of other surveys have sustained his thesis."

My book entitled "Sterility in the Male and Female and its Treatment" appeared as long ago as 1913. It was published by Rebman Company of New York, and was the culmination of five years of study and investigation on the behavior of human spermatozoa in the female genitals. This was the first book in any language that took up this investigation on a large scale. Beginning on page 69 of this work I devoted an entire chapter to the responsibility of the male in sterility cases.

In view of this fact, may I therefore ask you to make this correction in HYGEIA, and give me the credit for my pioneer work published in 1913, long before Dr. Cary wrote on the subject.

DR. MAX HUHNER

New York City

Enlisted Specialists

To the Editor:

I was much interested in an article published in the October 1941 issue of HYGEIA; the title, "Enlisted Specialists."

I know of a young man of draft age who has completed his pre-medical preparation and is ready for medical school. If he enlisted in the army would he be able to continue his training the same as if he were enrolled in medical school? Would there be a waste of time? What advantages would there be, if any?

MRS. GEORGE R. PROBERT

Phoenix, Ariz.

It would not be possible for a young man to continue medical education in the army. The type of education given to enlisted technicians is not the kind of education that is given to freshmen in medical school.—ED.

1867—Lister demonstrates his antiseptic method to fellow surgeons

ALL OF THIS WE HAVE SEEN...

MEDICINE has indeed advanced a long way since 1866, the year Parke, Davis & Company started to produce pharmaceuticals.

In those days, for example, no matter how skilful the surgeon, fatal infection would frequently develop following even the simplest operation.

But in faraway Glasgow a young English surgeon was on the threshold of a great discovery. In the summer of 1867, after long and patient study, Joseph Lister successfully demonstrated how to lessen the danger of infection following operations.

The work of Lister and the basic biological discoveries of Pasteur ushered in an era of great medical achievement . . . an era glowing with such illustrious names as Koch . . . Trudeau . . . Roentgen . . . Curie . . . Reed . . . Ehrlich.

In 1882, for instance, the tubercle bacillus was isolated, bringing the first encouragement to physicians battling that mysterious disease, "consumption." In 1894 Von Behring announced the discovery of diphtheria antitoxin. Then, as man continued to pry out the secrets of evil bacteria, other dread diseases began to yield to lifesaving serums and vaccines.

In 1895, the world thrilled to news of the miraculous X-ray. And in 1900 the discovery of Adrenalin, gave physicians a powerful new drug and speeded development of the infant science of endocrinology. Five years later Schaudinn found a way to actually see the germ of syphilis, and the following year Wassermann announced his now-famous blood test. The discovery of insulin by Banting in 1921 offered life and health to thousands of diabetics.

Over a thirty-year period one vitamin after another has rewarded the medical research worker with its secret . . . and in the past few years have come sulfanilamide and newer, improved compounds, their startling benefits as yet barely explored.

What the future holds, no man knows. But it can truly be said that medical science has progressed further in the past three quarters of a century than in all the preceding centuries. And during these eventful seventy-five years Parke, Davis & Company has been privileged to contribute to this progress, both as a research organization and as a maker of fine medicinal products.

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DETROIT, MICHIGAN

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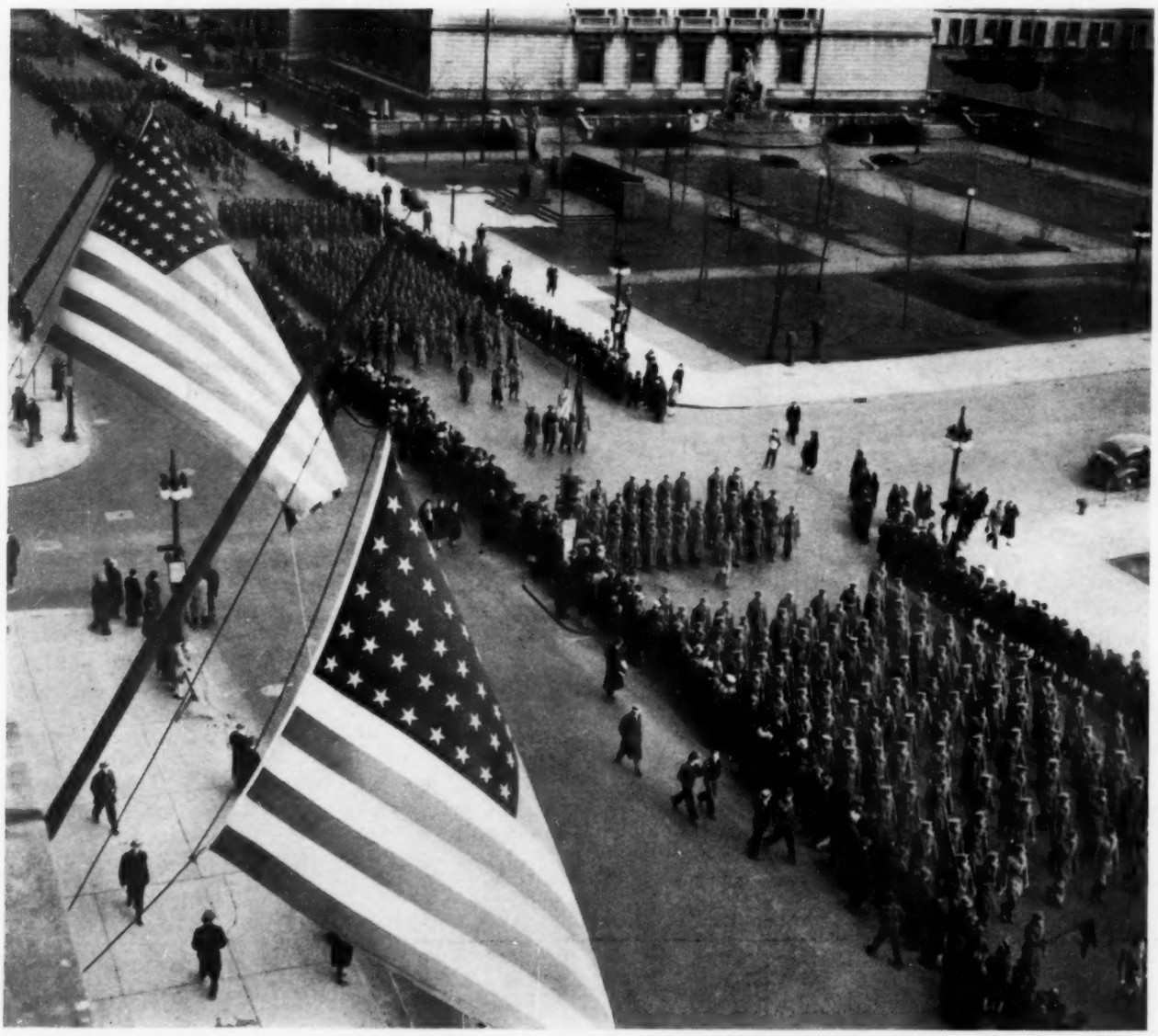
American and German Standards

THE UTILIZATION of the figures regarding the physical fitness of our selectees by various agencies for purposes of propaganda was fully discussed in a recent publication of the organization for propaganda analysis. The discussion continues. The majority of the evidence now available seems to establish certainly that the men now being inducted into our army are of an exceedingly high grade of physical fitness. Moreover, the men of military age are in better physical condition now than were the men of similar



Acme

The majority of available evidence indicates that the men now of military age in the United States are in better physical condition than were men of similar age in 1917.

# of Physical Fitness

An Editorial by MORRIS FISHBEIN

age in 1917. A much more rigid examination and the higher standards have yielded a rejection rate approximately the same as that which prevailed in 1917. Were the men not physically fit, they would not be able to meet as well the more rigid examination and the higher standards of selection. These are the conclusions, for instance, of Lt. Colonel Amos R. Koontz, state medical director of the Selective Service System of the State of Maryland, whose analysis of the figures appears in this issue of HYGEIA. The figures indicate that the average stature of men is greater now than in 1917, which again would seem to indicate that undernutrition among men of military age is not a serious factor.

Army rejections for tuberculosis are about one third of what they were in 1917, and this in spite of the fact that the use of the x-ray enables the detection of many cases which would not have been detected twenty-five years ago. There has been a reduction in venereal diseases. Sickness and death rates in general, as well as specifically for many infectious diseases, are far below what the records show they were in 1917.

Just available are the physical regulations for medical examination of the military forces of the German army, approved by General von Blomberg, March 24, 1936. The introduction states that the purpose of the military medical examination is to determine the degree of fitness. The medical judgment pronounced was to serve as a standard for induction into the Reich labor service as well as into military service, since the regulations covering fitness for both services were identical. In our country only men meeting the requirements for class 1A are inducted, while those in classes 1B or 4 are not called into service. In the German army men who cannot meet the requirements of our class 1A are, nevertheless, accepted for service in classes which are characterized as: fit 2, conditionally fit or temporarily unfit. Moreover, many others have been accepted in the German army in the class called "limitedly fit." The German army by 1936 had evidently determined to assign some military duty to every young man reaching military age who was physically or mentally able to perform any service whatever for the military forces. Any attempt at comparison of rejection rates for service in the two armies is, therefore, difficult.

Most interesting, perhaps, is the comparative evaluation of standards for the teeth. This is the most frequent reason for rejection in the American army. Our standard demands at least three pairs of occluding incisor or canine teeth and three pairs of opposing premolars or molars. The German army accepts men with no teeth at all, provided they have dental plates that fit firmly. The only conditions under German regulations which entirely disqualify for military service are those cases with permanent and extensive injuries to the jaws which interfere with speech, with chewing and therefore with nutrition.

One might take every group of reasons for rejection in our own army and show that by far the large majority rejected for our army would have been found physically fit for military service in Germany. Available figures indicate that physical examinations made of selectees of the National Guard, the "volunteers," the regular army and even the young men examined for the CCC and NYA show an increase in height and weight over young men of the same ages examined in 1917. Lt. Colonel Koontz says, "The sturdy state of health of the men now being inducted into the army is reflected in the much lower morbidity rate at the camps now than was the case in 1917. There has been a lower incidence of practically all diseases." In fact, a major cause of disability in both the Army and Navy is motor accidents.

All of this lends point to the following statement by Lt. Colonel Koontz: "It may readily be seen that in spite of the large number of rejections for the military service the health of the nation has gotten constantly better during the last four decades, and we have every reason to believe that it is still improving."

OUR SELECTEES

are HEALTHIER!

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In spite of the large number of rejections for military service, the health of the nation has been greatly improved in the last four decades

By LIEUT. COL. AMOS R. KOONTZ

MANY RECENT newspaper reports concerning the state of the national health have been of such a nature as to cause the public to be justifiably alarmed, if taken too literally. A great many of these reports have dealt with the rejection, on physical grounds, of men for the armed services, in connection with the operation of the Selective Training and Service Act of 1940. There are facts in connection with these rejections which might be pointed out—facts which would tend to lessen the cause for alarm.

In the first place, as was recently so aptly pointed out by Dr. Harvey B. Stone at the semi-annual meeting of the Medical and Chirurgical Faculty of the State of Maryland, the percentage of rejections is not an index of the state of public health, but simply an index of the state of fitness of men of military age for front-line army duty. The American army recognizes only three classes so far as physical fitness is concerned: qualified for general military service, qualified for limited military service, disqualified for military service.

So far, only the first class has been called and that class necessarily takes the cream of the men of military age. The rigors of modern warfare are most strenuous and exacting and only carefully selected men are fit for front-line duty. A large percentage of the men classed as rejected really fall into the second class, and it is to be presumed that they will

be called for limited military duty when the need becomes more urgent.

A great many of the men in Class I-B (the class for limited military service), while they do not qualify for general military service (front-line duty), enjoy perfect health. Many of these men are in this class because they are a little near-sighted, or because they have a few teeth below the minimum required for the next higher class. These men are perfectly healthy and are engaged in useful civil occupations. Many of them have conditions which could easily be remedied, such as hernias. All venereal disease cases (which may also be remedied) are put in this class.

While we recognize only three classes of men so far as military life is concerned, Germany has almost as many classes as there are letters in the alphabet, and the entire manpower of the nation is classified in graded classes according to the type of military duty the various classes are able to perform. In such a country there are very few rejections for military service, but in such a country the government is not worried about the question of pensions after the war, as we are in a democracy. The manpower of a totalitarian state is called on to serve and the recompense is negligible. In our country many men are rejected because of conditions which at the present time would in no way interfere with their serving in the army, but because the conditions might possibly become aggravated by military service and cause such cases to become Government wards later on.

If the total percentage of rejections appears greater now than it was in 1917 it is for the following reasons: (1) the physical examinations are much more rigid; (2) the standards for acceptance are higher; and (3) up to July 1 of this year the age group of those examined included older men (21 to 36) than those examined in 1917.

The organization of the medical setup of Selective Service in the present emergency is such as to employ more painstaking and more effective physical examinations than were conducted in 1917. In 1917 we were at war and there was a great rush to fill the army ranks. Besides, since 1917, we have gone a long way in our sense of values so far as standards of fitness are concerned.

Every candidate for the army now has his chest x-rayed before being accepted. In this way early and inactive cases of tuberculosis, not discoverable by physical examination alone, are weeded out. Most cases rejected because of tuberculosis have been of this type.

All psychiatric cases and all potential psychiatric cases are carefully excluded from the service. This was not done during the last war and today we have thousands of psychiatric cases on the pension lists.

Furthermore, during the last war cases of gonorrhea and syphilis were accepted by the army. Today they are being excluded from general military service, and are being put in the class for limited military service. As a means of aiding in eliminating such cases, various laboratory procedures are used in the course of the examinations whenever indicated; and in addition, each registrant has a serological test for syphilis done as a routine part of his physical examination. This was not done in 1917.

In spite of the more rigid examinations and the higher standards, so far as we can tell, at present the rejection rate is approximately the same now as in 1917. This would indicate that the men of military age are in better physical condition than they were in 1917, else they would not be able to meet just as well the more rigid examinations and higher standards of selection.

Furthermore, there is reason to believe, from early analyses made by the Surgeon General's office, that the average stature of the men is greater now than it was in 1917. This would not indicate undernutrition, and this, in spite of the fact that many of the men of military age have grown up during the years of depression.

Army rejections for tuberculosis are only about one third of what they were in 1917—and this in spite of the fact that the x-ray now picks up many cases that were not discovered in 1917. The mortality from tuberculosis in white persons of all ages in the United States has decreased 80 per cent since the last draft. There is also indication that there has been a decrease in venereal diseases since 1917.

Further than this, it is common knowledge that the health of the nation has been gradually improving during the last forty years. It was just about forty years ago that modern public health programs were started and they have been gradually bearing more and more fruit. One of the most interesting ways in which this has been exemplified has been in the increase in the average span of life. Since 1900 the average duration of life in white men in this country has increased *(Continued on page 1007)*

BRACES at BAT

By R. M. CUNNINGHAM Jr.

YOU'RE WATCHING the kids play ball, and all of a sudden you notice this youngster in right field with a steel brace on his leg, so you wait around for his turn at bat. He drags his stiff leg awkwardly when he comes up, and your throat aches all the way back to your eyes as he taps home plate with his bat and taunts the pitcher to "just put one over, right about here!" After a couple of wild swings, he rolls one into the infield. They throw him out by a mile, and the kids all holler. It makes your blood boil. "If that were my kid," you say fiercely to yourself, "I'd—"

If that were your kid you'd do no such thing, whatever it was. If that were your kid, you'd know that these youngsters instinctively achieve the result that orthopedic surgeons and psychologists alike are striving for all the time in their work with crippled children: they treat them as though they were perfectly normal. If that were your kid, you'd be everlastingly grateful to those who'd made it possible for him to be out there playing, for all his ineptness, instead of watching the game from a wheel chair at the window.

Not many of the 1,500,000 crippled children in the United States can get about well enough to play kid games, of course. For some of them, all use of crippled limbs or parts is hopelessly lost. Worse still, many whose function might have been at least partially restored have become permanent cripples through neglect or improper treatment. Such tragedies can still happen, but public and private agencies throughout the country are now engaged in a continuous effort to make certain that every crippled child is given the best possible chance to play ball.

Largest of these agencies is the United States Crippled Children's Commission, established in the Department of the Interior under the Social Security Act of 1935. The Commission supports clinics in all forty-eight states to seek out crippled children, provide them with competent medical attention, and, most important, check up on each case to see that the family or local health or welfare agency is following instructions in the child's care. Operating in cooperation with the United States Public Health Service or with state departments of health, welfare, or education, the clinics use every possible community resource to complete their lists of crippled children. Schools and hospitals, community chests, family aid societies, churches, industries and such organizations as Rotary, Kiwanis and Lions clubs all contribute their knowledge of crippled cases to the clinic. The clinic then arranges free care, even to the provision of the necessary brace or appliance for those whose families have been unable or have failed to get proper care. In rural areas, "mobile clinics" are equipped to reach every crossroads settlement, every farm and every shack to examine patients and arrange for their treatment. A few years of operation by this method should reduce the number of unreported cases to a negligible few, and let the dust gather on thousands of wheel chairs.

The National Foundation for Infantile Paralysis, in addition to its vast program of research seeking the cause of infantile paralysis and treating its victims, has recently set aside a fund for the improvement of brace and appliance manufacture. A national survey of the entire industry has been undertaken, as a result of which it is hoped that closer cooperation between orthopedic surgeons and brace manufacturers will bring a proper brace within the means of every crippled child's family. Cooperating in this study is another private philanthropic organization whose effort is concentrated on the standardization of manufacturing methods. Better braces for substantially lower prices are already a possibility through this work.

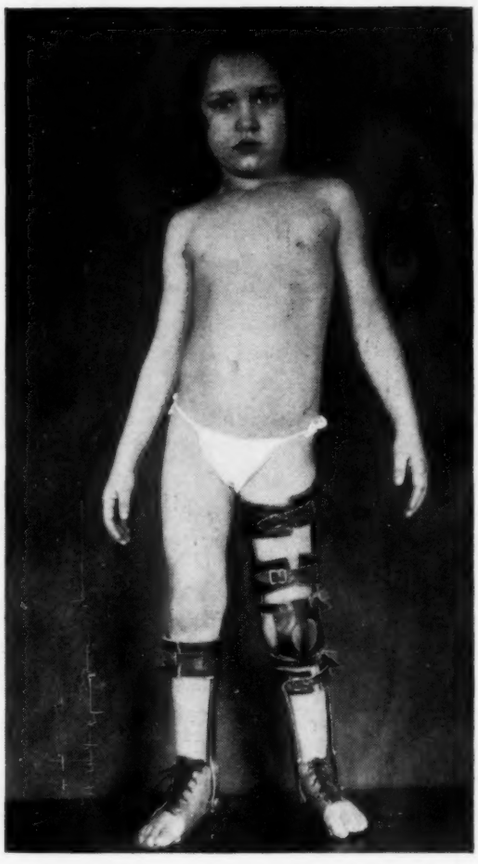
These national studies indicate that seven out of every thousand children are born with crippling deformities or will be crippled by injury or disease during childhood. Largest single cause is infantile paralysis, whose victims include 19 per cent of the known cripples in the country. Nerve injuries resulting in paralysis; inflammatory diseases of the bone

such as tuberculosis, osteomyelitis and spinal meningitis; congenital deformities and crippling accidents add their toll to the tragic total which makes the manufacture of orthopedic appliances a ten million dollar a year industry in the United States alone. It is estimated that 60 per cent of the cripples are afflicted with injury or disease affecting the lower extremities. These are the lucky ones; to restore normal function to a crippled spine or paralyzed arms is frequently more difficult.

Braces and appliances as an aid to cripples are actually much older than the knowledge of anatomy and pathology which makes effective treatment possible. For years, a heavy iron bar to support an atrophied or crippled limb was the only assistance the cripple could expect. Heavy, clumsy and makeshift in design, such supports were often as much of a handicap as the deficiency they sought to compensate. Yet these were widely used until the 1860s, when Lister's discovery of antiseptic surgery made possible a variety of corrective procedures and brought about an actual decline in the use of appliances. It was not until the development of modern orthopedic methods, about 1910, that a more conservative surgical approach to the treatment of cripples again popularized the use of braces, this time taking their manufacture away from the blacksmith's anvil and into the shop set up especially for producing such appliances.

Braces today are made by commercial manufacturers, and by individual craftsmen working in shops at the large orthopedic hospitals which are teaching centers for medical students, interns and resident surgeons specializing in orthopedics. From whatever shop or factory, a proper brace must be mechanically correct and suited to the individual need of the crippled person for whom it is designed. A shocking result of the survey by the National Foundation for Infantile Paralysis has been the disclosure that some of the commercial houses are actually misrepresenting their products to ignorant parents who have not sought competent medical care, or, at best, allowing their salesmen to prescribe and fit braces with no indication from the orthopedic surgeon, without whose advice the appliance salesman is not much better prepared to recommend a brace than is a clerk at the nearest shoe store.

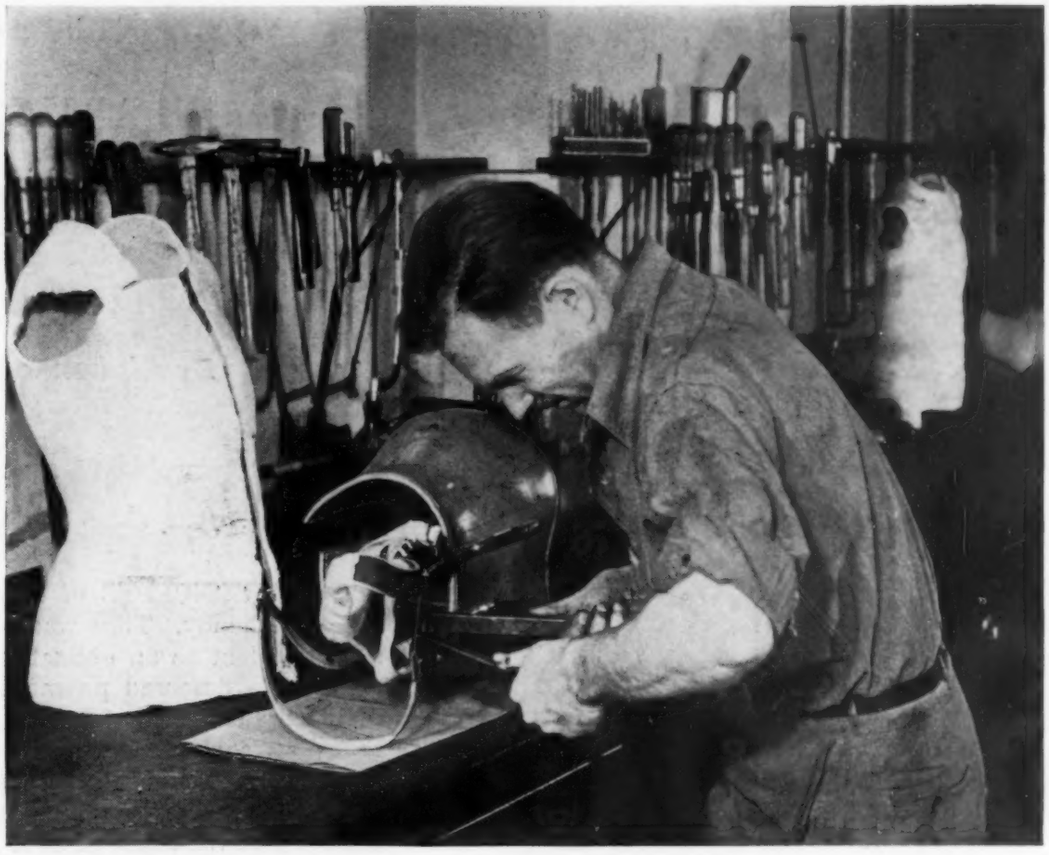
Given proper design to suit the indicated need, the ideal brace must be of light material to permit the maximum of function and motion



There are many things the brace maker must know before he can construct even a simple leg brace.

with the least effort, and strong enough to stand up under heavy use—perhaps for a long period. Modern steel alloys, of course, have considerably lightened the load which the cripple must carry with him; however, it does not by any means follow that the ultimate in brace metals has been achieved. Research in metals as well as in design is one of the important jobs carried on by the foundation which is seeking to improve manufacturing methods. These people have recently developed a tubular design for the side pieces of the usual type of leg brace. The improved design permits the use of a much lighter alloy than that required for flat pieces. Together with the standardization of tools and jigs for the quantity production of brace parts, as worked out by the same group, this may prove to be the greatest forward stride in brace making since the first crude crutch was hacked out of a forked sapling.

Before the mechanically simple leg brace may be made, the brace maker must first know whether it is for permanent or temporary use, whether or not it must bear the patient's



The ideal brace must be of light material to permit the maximum of function and motion with the least effort, and be strong enough to function under heavy use.

weight, what motion is to be permitted at the ankle, and whether fixed or free knee action is indicated. The right answers must necessarily come from the surgeon's precise knowledge of the affected bones or muscles. When the facts are determined, the brace maker takes a tracing or model of the patient's leg and builds the brace according to specifications for size, shape, strength and function, starting with a stirrup designed to fit the shoe and ending with a padded steel corset which fastens to the thigh. The usual leg brace for paralysis cases is designed to carry the weight to the natural hip joint; the ankle is almost rigid, permitting only a slight action to aid in locomotion. The knee is held rigid by a locking device which may be released when the patient sits down.

Braces permitting free action at the knee are occasionally required for patients whose muscular control of the knee has been restored or maintained, but who remain subject to an unnatural flexion or "caving in" at the knee. Frequently, braces are required only to prevent the foot from dropping, where the function of the ankle is lost; these may be nothing more than a shoe with a strong spring attached to a single brace extending halfway to the knee. On the other hand, involvements of the muscles or bones of the hip may require a complicated appliance with a rigid pelvic belt which achieves virtual immobilization of the diseased parts. Cumbersome as it is, such an appliance will go through a lot of doors that necessarily would always be closed to a wheel chair.

Visitors to orthopedic hospitals always ask first about the patients who lie or sit in bed with both arms fixed at half-extension, like a diver about to plunge into a pool. The purpose of these "airplane splints," which are commonly used for infantile paralysis victims whose arms have been affected, is to fix the arm muscles in their most relaxed position. This gives nature the best possible chance to restore function; it may prevent atrophy resulting in permanent paralysis or deformity, and insure the best result for restorative therapy. As function returns, the appliance may be equipped with hinges *(Continued on page 992)*

MAN'S DEBT to MEDICINE

By Alphonse M. Schwitalla

OUR CONCEPTS of debts have changed radically. Time was when we regarded a debt as an obligation that had to be paid, as a deferred payment that had to be met, as a deficit that had to be cleared; but today all such definitions have given way to the attitude implied in the Irishman's witicism that "a debt is spending money which you ain't got." We think of debt as a score which has to be settled rather than as an expenditure to be made on credit. We face with placidity a debt as insolvency; we contract, and we keep on owing; we borrow, and we outrun the sheriff. In fact, there is a certain fashion in being in debt. Business is run on credit, which is nothing else than the expression of the chance that people may pay a debt.

In retrospect, our age may look to the observer who discovers the time-tube buried at the World's Fair as a civilization of debt making, and yet there is still something real behind the concept of debt. We still like to think that we can secure a debt by notes or mortgages or other debts. But all these are simply devices for pyramiding debts.

The doctor, too, holds a mortgage on society in the hope that some day that debt which society owes to him will be paid. I am not thinking of the payment of the doctor's bill; I am thinking rather of society's debt to the towering structure that is founded in the long buried facts of antiquity and that raises the pinnacles of its accomplishments into the skies of our human achievements. One might have

talked of these things with greater confidence and assurance before it was necessary for us to become aware of the threat to those achievements, when we still believed that we had a civilization that would form a stepping stone to our next stage of progress. But today we are skeptical of all that is to come next. Now that we have seen mankind denuded of its trappings of artificiality and exhibited in all the mere naturalness of its barbarity, our attitude toward our debt looks like a vanishingly small pawn of interest in the great game for tyrannous dominance which is being played on the huge dimensions of the world's chess board of nations. And so we are brushing aside the trifles of life, and one of these is our obligation, our debt.

Despite this, cultural history is not at an end. It will change, no doubt, perhaps appallingly so. But as we emerged from the simple barbarities of the Trojan War to reach the cultural culminations of the thirteenth century, and as we emerged from the Asiatic invasions of Tamerlane to reach the philosophic glories and scientific triumphs of the nineteenth century, so, too, no doubt, mankind will emerge from the inglorious present to a future that will hold aloft again the triumphs of the human mind and the victories of man over himself. Will the debt of man to medicine then be acknowledged?

There is not an area of human life or interest to which medicine has not made its contribution. Into literature and representative and plastic art; into music and mathematics, physical and biologic science, psychology and social science and philosophy and theology; into our daily living; into our homes and business, and into our leisures and recreations, medicine has entered, not as an interloper but as an interpreter; not as a servant but as a teacher. From the moment of our first rising in the morning until the moment of our last conscious thought in the evening, medicine has in some way modified and sculptured our lives. Our diet and our dress, our work and our play, our thought and even our prayer, our rest and our travel have been influenced in the world in which we live today, whether it is amidst the peace of Angelus-time in the countryside; whether it is amidst the stench of exploding bombs or among the sweetly floating perfumes of the summer flowers. In all of these, medicine has had its part in molding the daily regimen that brings peace or turmoil, worry or joy, to the last and least of us.

It would not be in place to review here the recent findings of anatomy and physiology, of pharmacology and pathology, of clinical medicine and surgery and of the constantly increasing number of specialties to prove my point. Suffice it to say that from the moment of conception, and even before, until the grave we are with each breath through which our life is prolonged increasing the debt which we owe to the science and art which the first of the encyclopedists, Isador of Seville, pronounced to be the "synthesis of all the sciences and all the arts," because it concerned itself with that most valuable creature in God's creation, the human being.

The main reason why it has been possible for the science and art of medicine to place mankind so deeply into its debt has been because medicine of all the sciences, with the possible exception of religion, has laid emphasis on the value of the human being; it has seen in each individual man the embodiment of its concentrated interest. History sees men come and go; it sees the passing of nations and of races; it becomes impersonal in the points of view which it develops concerning trends and tendencies in society. Economics, politics and government share the approach

Yours Are the Hands

You are a man of bone and flesh, and yet
Yours are the palms that cradle a precious spark
Of life whose beam can make the weak forget
Their fear and guide them through despairing dark.
With fingers stretched to greet the newborn child,
Yours are the hands that guard the doors of life.
Your touch must calm sharp cries of men grown wild
From pain, and lift tired souls worn thin by strife.
Strong hands dare never fail deep trust that dwells
In sterile fingers, gloved, and poised to deal
A blow to death with gleaming, sharp-edged scalpels
That swiftly move with deft, sure touch to heal.
Because the world cringed low to pain's command,
God fashioned you—and made a doctor's hand!

—**Sara Giles**

of history. These concern themselves with movements, with causes, with social change. Not so medicine. The physical sciences boast of their aloofness from personalities; they are not "tainted" as they would be if they viewed the matter by emotions and sentiments; they swagger in their claims to objectivity and would thereby disclaim all immediate concern for their significance to human life. Not so medicine. Even the representative and musical arts are not concerned so much with the human being as a whole, with his dignity, his betterment, his happiness; they would rather emphasize his own power of self expression. Again, not so medicine. It has placed all of these other sciences and arts under contribution to increase the contentment and health and welfare of the individual human being. Let that person be maimed by accident or laid low by disease or starved by privation, and medicine concentrates on his cure the combined resources of all these sciences and arts; it labors for hours to prolong a life for minutes; it strains all its intellectual and moral wealth to bring the gift of a moment's freedom from pain to the sufferer. Think of the hours that are spent by our hospital personnel, by our physicians around the bed of a doomed patient to wrest from that failing protoplasm the last moments of endurance.

Contrast with all of this the scenes which we are now witnessing. From our protected shores across an ocean from the waters of which there rises a sun that is stained anew each fighting day with the red blood of those whom medicine has attempted to make fit for human living and who today are made fit for an inhuman death, the person whom medicine saves today becomes a pavement for the lumbering tank and the grinding heel. Each bomb and cartridge is a taunt to medicine. Each command to fight until death scoffs at the purpose of medicine. Each wound on the battlefield pronounces medicine a farce. What fools we men be to shoot a man to his knees in a fraction of a second and then spend years in keeping him alive as a cripple. And yet medicine accepts the mockery; it leads even the soldier to the frontline of defense, bids him Godspeed and in the first moment of need it is again at his side to wrap him tenderly in the arms of medical mercy and to nurse him back to a life of usefulness and happiness—or at least to a life that is bearable.

What other interests and activities concern themselves with the individual human being as medicine does, except, to be sure, religion, which sustains him even in that horrible moment when death rides into his heart on the speedy bullet or on the crushing tank? All that our finest feelings abhor in the terrors of the moment medicine has long since abhorred and has proved its abhorrence for by effective labor to save to a longer and a better and a happier life the people who today seem to count for naught, despite the preaching and the teaching of the science that alone of the natural sciences has kept the individual man on the pedestal of honor.

Another reason why medicine has placed mankind so deeply under its obligation is because medicine has sacrificed itself for the individual human being. The history of medicine is a history of a self-imposed slavery to the mastership of an ideal. Medicine's regard for the individual human being is not an empty ideal that stops at theory. Through the ages it has become a dynamic drive that has ceaselessly and restlessly driven on the physician to an ever more exacting sacrifice of self. I am not thinking only of those who gave their lives directly and immediately to discover the meaning of yellow fever or of typhoid or of diphtheria. I am thinking rather of those hidden workers of the laboratory who unsung and unnamed have added their share to our understanding of disease. I am thinking of the country practitioner of *(Continued on page 1004)*

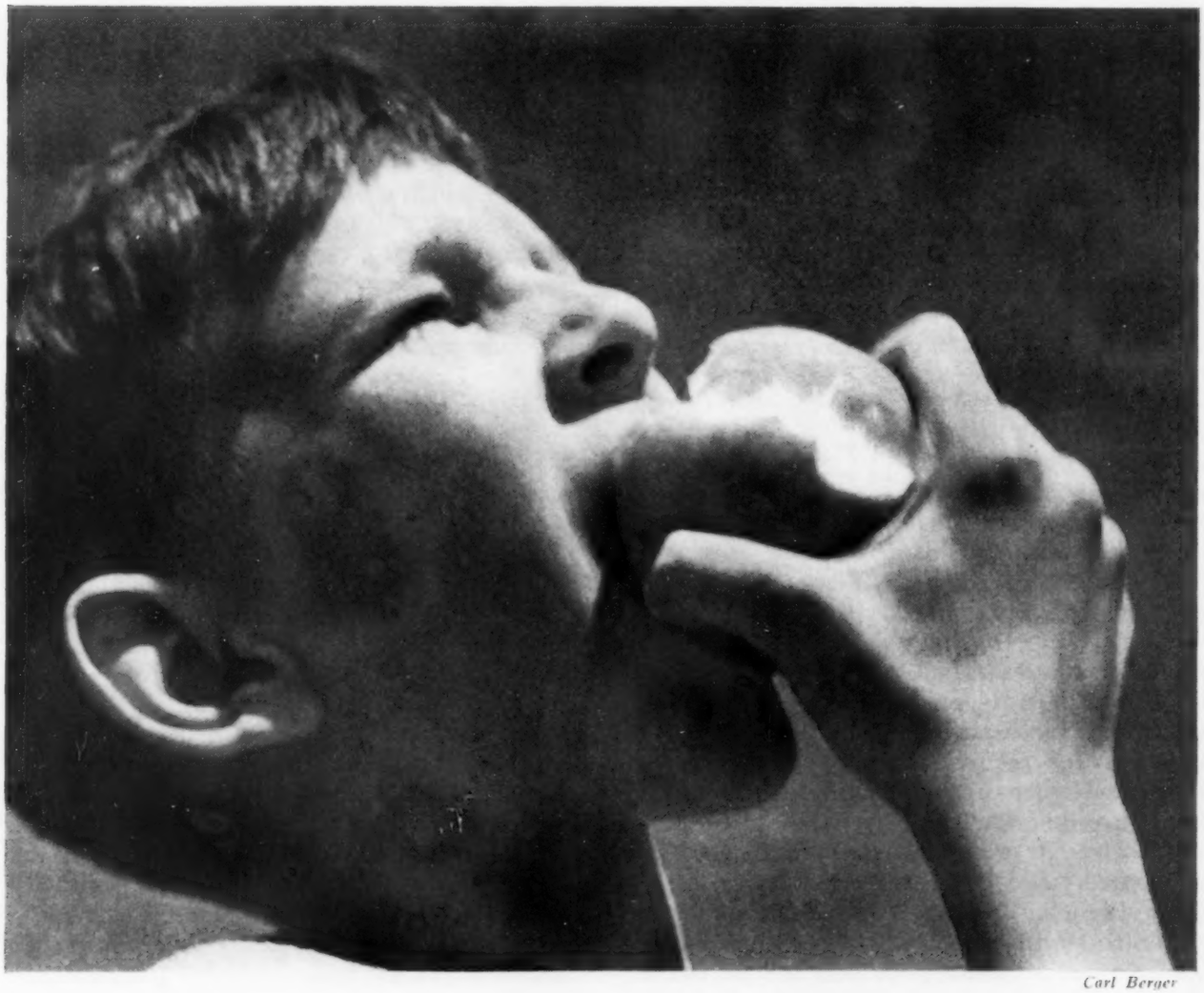
Prayer from a Hillside

I say, "Oh, God"—and rustling leaves reply.
Life takes its color from the sunset sky.
I have seen the seed complete its ordered plan
And I am glad for being of earth and man,—
To feel the evening wind brush freshly by;
To love and to be loved; to breathe and sigh;
Be filled with beauty and swept very clean
Of troubling thoughts, left shining and serene.

Such moments simply are! When blood responds
To some still throbbing in the earth and air,
The heart is drawn to both by soundless bonds,
Filled with a childlike sense of love and care.
I say: "Oh, God,"—and wordless watch the sweep
Of flowering night, as nourishing as sleep.

—Virginia Brasier

A Clean Bill of Health



Carl Berger

THE CODLING MOTH started it. This pest, if permitted to mature, eventually becomes a worm and eats its way into apples, rendering them unfit for human consumption. Nearly half a century ago it was discovered that if apple trees were sprayed with lead arsenate before and during the growing season of the fruit, the moth was killed before it could do any damage. The apple growers have utilized this protective method almost exclusively ever since, else the apple would possibly have vanished from the American scene. With the lead arsenate spray out of the picture, the moth would have had no competition.

Then came the charge that people who ate apples were being poisoned by spray residues. The belief persisted, to plague the apple-growing industry to the point where the consumption of apples fell off markedly,

for Apples

By WALLACE D. MORRIS

Like most rumors, the one concerning the use of lead arsenate as an insecticide has many more lives than the proverbial cat. Here are the results of a Public Health Service study of the effects of this chemical on the health of both the apple orchardist and the consumer

untold hundreds of farmers saw their apple orchards become financial losses, and the apple business as a whole approached perilously near the point of bankruptcy.

The growers, packers, marketers and other workers in the apple industry fought back. Time after time, when apples were suspected of causing illness or death because of lead arsenate residue, they proved that some other factor was the cause of the trouble.

Finally help was sought of Congress, and on July 1, 1937, that body directed the United States Public Health Service to make an investigation "to determine the possibly harmful effects on human beings of spray insecticides on fruits and vegetables." The results of the Service's findings as regards sprayed apples have recently been released under the title, "A Study of the Effect of Lead Arsenate Exposure on Orchardists and Consumers of Sprayed Fruit," being Public Health Bulletin Number 267.

The region around Wenatchee, Wash., was selected as the place to find the answer to the question: "What has been the possible effect on human beings of exposure to lead arsenate?" The reasons for picking the Wenatchee section were that lead arsenate has been used there as a spray material for more than a quarter of a century, as much as 7,000,000 pounds of it being used for this purpose in a single year; more spray applications are given there each season than in most other apple-growing districts; since many of the apples consumed locally were not commercially washed, there were opportunities for studying consumers who, over a considerable period of time, had eaten lead arsenate residues in excess of the amount permitted by the United States Food and Drug Administration; the orchardists there are concentrated in a relatively small area, making it possible for subjects to come into a centrally located clinic; and, finally, the varieties of apples produced in the Wenatchee region are usually eaten raw, rather than cooked.

Although apples are grown in nearly every state in the Union, Washington produces one fourth of the national total. The Wenatchee-Okanogan district in Washington contains only 1.5 per cent of the total apple acreage in the United States, but produces from 20 to 25 per cent of all commercial apples. During the years 1934-1938, the average per capita consumption of apples in the United States was 56.8 pounds, with oranges, their nearest competitor, running 36.6 pounds.

The state of Washington is highly apple-conscious, to the extent that it has a unit of the state government, the Washington State Apple Commission, whose job it is to aid the growers in making Washington apples the finest that its rich volcanic ash soil can produce, and to tell the world about those apples. Clifford E. Chase, secretary-manager of the commission, makes his home—as might be expected—in Wenatchee, when he is not off across the country to Washington, Miami, Chicago, New York or somewhere else in the interest of the famed fruit of his state. In or out of Wenatchee, Mr. Chase has taken a leading part in the campaign against the lead arsenate bogey.

The packers of apples make every effort to cleanse the crop that is packed for commercial

sale. First the apples are washed in a sodium silica wash, at a temperature of 110 degrees, to remove any spray residue. Next they are rinsed, and then are sent into a second hot bath, a one per cent hydrochloric acid solution, for the removal of any additional residue or dirt, after which they are rinsed again. They are then dried, sorted for size, defective fruit removed, the good apples weighed and packed, then stored in chilly storage rooms or refrigerator cars. It is usually less than an hour from the time the apples arrive at the packing plant until they go into chilly storage, and they are kept there until they go on sale in the store where you buy them.

The Public Health Service's bulletin states that the investigation comprised "a study extending over three years of the possible injury to health of people exposed to lead arsenate, whether by ingestion on fruit (consumers), by inhalation of spray mist or dust (orchardists), or by other forms of exposure." The study also "included both an intensive field study of large groups of men, women and children, as well as toxicologic laboratory investigations of the effect of lead arsenate on man and animals, and of similarly-related problems. The possibility that lead arsenate could have been a factor, directly or indirectly, in other diseases was studied."

This phase of the investigation extended over 14 months, and included health examinations of 488 adult male and 54 adult female orchardists; 95 men and 146 women classified as consumers, who had no seasonal exposure to lead arsenate or any similar compound; 158 men and 171 women, former orchardists or seasonal workers in apple-packing sheds; 99 boys and girls under 15 years of age; and a group of 20 men and women whose records were set aside for special consideration because of previous industrial exposure to lead, or because their exposure at the time of the investigation did not fit into any of the categories mentioned. The total number of persons examined was 1,231. The youngest was a 19 month old girl, the oldest an 86 year old woman.

Each person in the various classifications was questioned as to how many apples he or she ate annually (based on recollection), and whether they were washed, unwashed, or both. Some said they ate no apples, while others said they ate more than 2,000 a year. Again, some ate commercially washed apples almost exclusively, some both washed and unwashed apples, and some unwashed ones almost exclusively.

For example, in the consumer classification it ran: Washed—men, 255 apples annually; women, 263; both washed and unwashed—men, 431; women, 400; unwashed—men, 345; women, 371. Men and women orchardists ate more unwashed apples than washed ones.

In the medical procedure followed in examining the patients—"patients" because many of those examined were in various stages of health—particular attention was paid to regions and systems important in the diagnosis of lead and arsenic intoxication. Each subject was given a fluoroscopic chest examination, and about a tenth of the total number of subjects were x-rayed, this being done on all cases where fluoroscopy indicated a pathologic manifestation. Specimens of blood and urine were taken from each subject at each examination, and fecal specimens were collected from the first 48 men examined, for clinical laboratory tests and chemical analysis. The subjects were examined, over a period of a year devoted to this phase of the survey, from one to four times each, to note any changes in their health or in symptoms of which they might have complained.

Tests revealed that blood lead concentration was higher in orchardists than in nonorchardists, but the report on a 14 year old boy who had tended a mixing tank during the season of the survey was: "Clinical findings were negative, and results of clinical laboratory tests fell well within the range of normal variation."

Again, "It thus appears that these elevations in blood lead, urinary lead, and urinary arsenic content correspond to elevated levels of lead arsenate intake, peculiar to the Wenatchee district and to fruit-growing regions in which there are similar opportunities for exposure. There was no indication at the time of examination of any adverse effects on the health of Wenatchee children." The children examined were nearly all in the consumer class—those who ate apples, but had nothing to do with their growing or packing.

Of the men apple growers the report says: "This population of orchardists shows no tendency for the symptoms and signs of lead and arsenic intoxication to occur in combination."

Speaking of subjects found in need of medical attention, the report states: "Physicians will recognize that more data, special laboratory tests, and particu- *(Continued on page 1023)*

Stephen Deutch

Santa Claus' greatest appeal is based on a juvenile love for adventure. His physical endurance is surpassed only by his gift-giving capacity.

There Is a Santa Claus

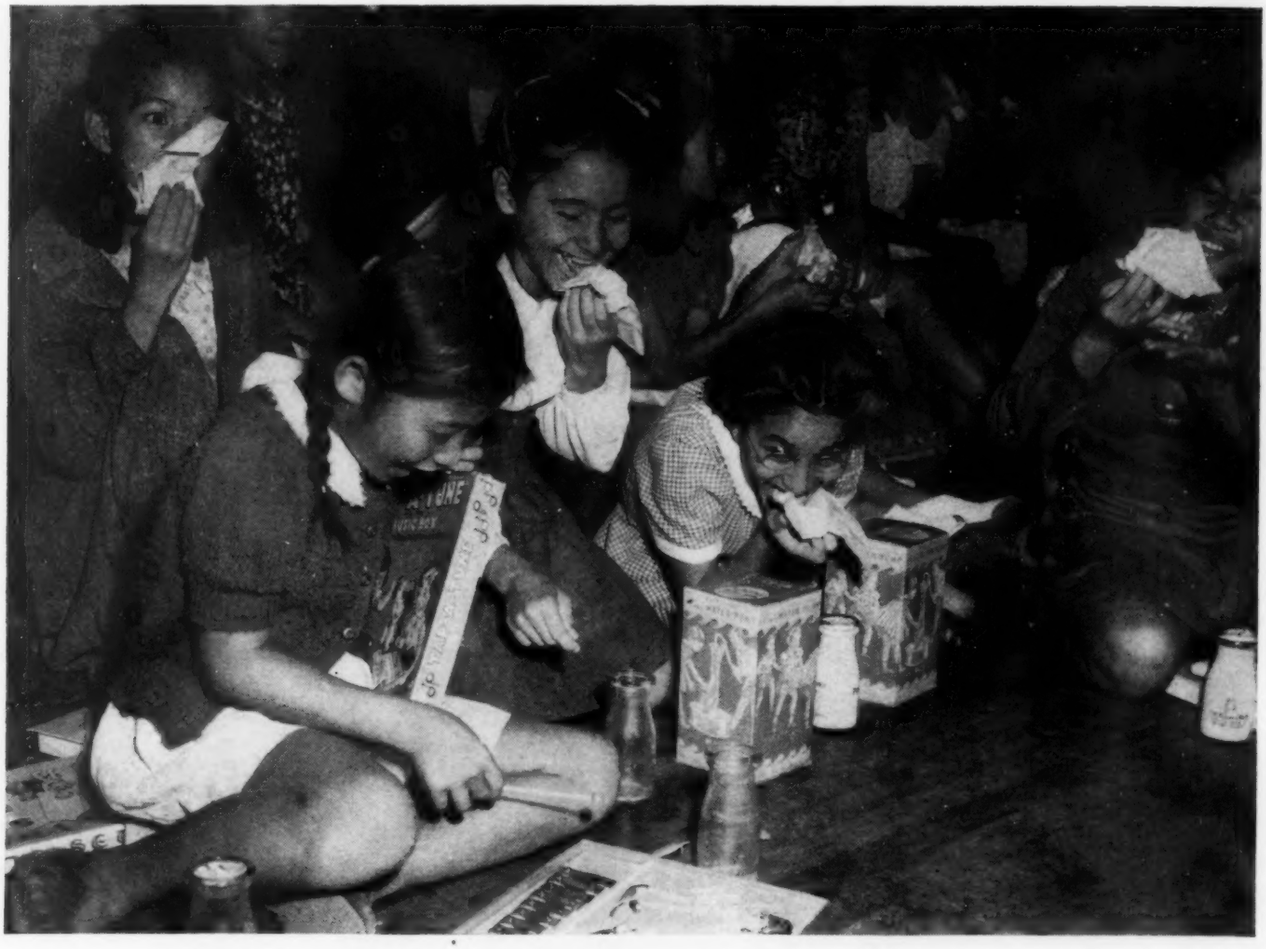
By HERMAN M. JAHR

TO THE AMERICAN CHILD Christmas is synonymous with Santa Claus. That this Patron Saint of childhood is responsible for family inconveniences is difficult to believe. Yet problems arise even from this saintly source. Not serious problems, to be sure, but the type that often produce unnecessary domestic annoyances. And they occur in homes where one would least expect them. For example:

"We have always been careful not to deceive our daughter as so many parents do, with nonsense," one mother prides herself. "She seemed to respond to our practical teachings until last fall when she entered kindergarten. During the Halloween season she came home with stories about dragons and witches and other weird characters. We tried not to pay much attention because, to our surprise, the child appeared to enjoy her declamations. It was innocent fun, we believed.

"Picture the shock to our honest endeavors when Susan confronted me the other day with the defiance, 'Mother, you lied to me. There is a Santa Claus. He was in our school today. He even talked to me.' What is one to do under the circumstances? I knew that challenging the school system would be of small avail. Besides, the damage was already done. The child's faith in her parents had been undermined."

Mrs. Jones felt hurt and resentful. That the application of ethical concepts should produce a dilemma *(Continued on page 1016)*



Palama Settlement children enjoy a party given by the crew of the S. S. Lurline.

At the center are the buildings and grounds which provide the facilities for medical service, dental attention, nursing, recreation and a community camp for Palama's public of some forty thousand people.

Honolulu's Hull House

A unique health and social welfare institution —Palama Settlement—guards our Pacific outpost

By PHILIP S. PLATT

HOW FIVE community-wide health and welfare services which are usually separate institutions grew up as one organization, under one leadership, is the story of Palama Settlement, Honolulu's number one welfare institution.

A mile from the old Palace where Hawaiian kings once dwelt, in the midst of a congested area, one suddenly comes on the settlement, a group of white colonial buildings, surrounded by flowering shrubs and towering monkey-pod and eucalyptus trees. There are three large buildings facing three sides of the quadrangle and screening six other important service buildings. Twelve buildings and ten acres provide the facilities which serve Palama's public of some forty thousand persons. They are the backdrop of the settlement's story of forty-five years of dynamic life.

Medical care, dental service, nursing, recreation, and community camp are five ideas, big or little depending on one's experience or imagination. At Palama medical care means the one outpatient department in a city of 200,000, serving 16,000 families and requiring a staff of 26 and $70,000. Dental service here means 34,826 visits by 8,548 children to a clinic with eleven full time dentists. Nursing, of course, is public health nursing, begun by Palama thirty-five years ago and now gradually being turned over to the Territorial Board of Health. Recreation means everything in group work through clubs and classes, physical activities ad infinitum and the socializing function that a neighborhood center can perform. Community Camp means what it says. Palama runs a year-round seaside camp for the public thirty miles distant in the country.

That is the idea in its broadest outline, like the view of the five great volcanic mountains on the island of Hawaii seen from 25,000 feet. But without detail, color, or human touch.

Dr. Ira V. Hiscock, professor of public health at Yale University, who has made two public health surveys of Honolulu, has written: "Palama Settlement is an outstanding example of the values which come from wise leadership, trained workers, and careful long-term planning, coupled with an understanding of community needs in relation to health and social problems and of modern methods to meet them. Palama renders superior health and welfare services. Expenditures for these services yield large dividends."

A vice-president of the Rockefeller Foundation has written: "I wish to congratulate the City and County of Honolulu in having in the Palama Settlement one of the best conceived and run social health centers that I have seen

Located here are the main administration offices, the community center and the girls' recreation facilities.

anywhere. One is impressed with the combination of scientific spirit, team play and human interest shown in this institution. I feel the community may well be proud of its achievements."

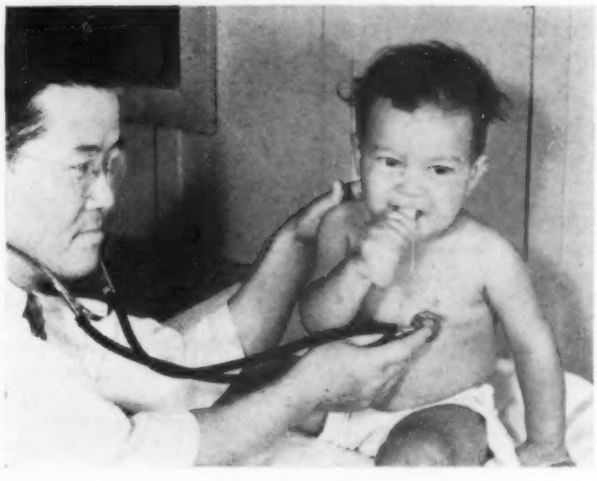
Such statements are tonics, not sedatives, to a staff of 222 full and part time people who think of Palama as a dynamic organization, never the same year after year. This feeling is based on fact, for in the past eleven years the settlement has assumed 24 new activities and dropped or transferred 12 activities to other agencies. Palama may be compared to a great river which receives new life from its tributaries—in this case, new ideas, new personalities, new money—and in its journey deposits not silt but ideas, personalities and activities which have outlived their usefulness. But always the great forward movement sweeps on.

The keystone of Palama's arch of service is found in its cooperativeness. It is not by accident that Palama records 35 activities carried on cooperatively with such public and private agencies as the Department of Public Instruction (9 activities), Board of Health (6), University of Hawaii (3), City and County (4), and the welfare agencies (13). Always the idea is that if a better job can be done by two agencies working together rather than independently, such teamwork is the order of the day. Outstanding among such examples of cooperativeness are the virtual fusion of the public health nursing service of Palama with that of the Territorial Board of Health. The director of Palama's department acts as an agent of the Board of Health and in this dual capacity directs the combined Honolulu public health nursing unit. In the nursing program, field experience is also given nurses taking the public health nursing course at the University of Hawaii and the student nurses at Queen's Hospital.

Local pioneering in health and social fields has always been one of the most valuable attributes of privately supported welfare institutions. The list for Palama is a long and honorable one, over 40 activities being recorded. The tuberculosis committee, day camps, milk stations, model tenements, employment bureau, boarding homes for girls, branch dispensaries, child health expositions, dental clinic, prenatal clinics, obstetrical nursing and public health nursing are activities initiated by Palama and later turned over to other agencies to carry on. Palama organized the tuberculosis committee and social hygiene committee, each of which became independent Territorial Associations; it developed a child-spacing and sterilization clinic; assisted the University of Hawaii in organizing and directing courses in public health nursing, and has been responsible for a host of innovations in the field of recreation. Consistent with its policy of turning over activities when the responsibility of another agency is clearly established, Palama was instrumental, several years ago, in getting the Board of Health to take over its 21 child health conferences and 3 prenatal conferences, and this year accomplished the transfer to the Board of Health of support for 10 nurses.

Palama's operation of a large detached outpatient department is not regarded as ideal by Settlement Trustees and they would willingly give it up if Honolulu's widely known Queen's Hospital were in a position to take it over. The City and County now contributes 60 per cent of its direct costs, the United Welfare (Community Chest) the balance. The department's many services reached 6,000 families and 25,000 persons last year, at an average cost of $1.01 a visit. One thousand and ten patients were under care in the venereal disease clinic. Two full time dentists serve the eligible persons above elementary school grades. Unique is the child-spacing and sterilization clinic which for nine years in an unusually favorable setting has been of unbelievable help to thousands of men and women.

Through the generosity of Mrs. George Carter a children's dental clinic was established in the settlement's new plant in 1925. Today, with 11 full time dentists, it serves the eligible children in the first six grades of Honolulu's 31 elementary schools and all the eligible preschool children from one year of age on who are brought to the clinic. Two hygienists, three dental attendants and four office workers complete the personnel. Some 130 children come to the clinic daily during school days; the average percentage of appointments kept during the year is 98. More remarkable, however, is the purely voluntary attendance during the summer vacation period when an average of 136 visits per day is recorded. A more striking evidence of the effectiveness of dental health education by principal, teacher, hygienist and clinic is difficult to imagine. The Strong Foundation, created by Mrs. Carter, continues most generously to support the Strong-Carter Dental Clinic with its annual contribution of $42,000.



Top left: Lauhala weaving is popular with all ages. Top right: Palama's medical department serves clients of all public and private welfare agencies. Preventive medicine is the watchword. Over one hundred thousand specific services were rendered here in the last year. Lower left: Christmas toys are made for hospital patients. Above: The pediatric clinic of the Palama settlement.

A neighborhood center department is the one branch of the settlement which is not city-wide in scope. As the tremendous development of public, commercial and scholastic recreation reduced the demands on Palama for recreational leadership in many directions and areas, the natural thing has been for Palama to restrict its services on a neighborhood basis and endeavor to give its youth more intensive training through the group experience of social clubs and special interest classes and athletic outlets on other than the highly competitive levels. It is planned to work effectively on a treatment basis for specially referred children from social-breakdown families. While it acts as a neighborhood center for certain civic associations, social groups and the like it has not reached its goal in this direction.

Financial support of the settlement is as many sided as its scope. The community chest, known locally as the United Welfare Fund, contributes $92,000, City and County $45,000, Strong Foundation $42,000, Public Health Committee of the Chamber of Commerce $21,000, institutional receipts $19,693, and income from endowment and special gifts $3,000, a total of $222,000. Last year a staff of 95 full time, 104 part time workers were on the payroll besides 23 N.Y.A. workers and many volunteers.

During the forty-five years of its existence Palama Settlement has seen Honolulu grow from a sprawling village of 30,000 to a metropolis of 200,000. Untold thousands of citizens scattered through the city and its principal islands have spent their youth under the helpful guidance of Palama.

AIR CONDITIONING

Rewritten by Lawrence C. Salter from "The Relationship of Clothing to Comfort Standards of Men and Women in Air Conditioned Buildings" by C. P. Yaglou and Anne Messer, published in The Journal of the American Medical Association as the seventh report of the Association's Committee to Study Air Conditioning.

TRYING TO SATISFY both men and women at the same time is one of the most difficult problems involved in the heating or cooling of buildings. When temperatures are maintained that satisfy the men, the women generally complain that it is too cool and when they are satisfied, the men say that it is too warm. Because of this double comfort standard, buildings generally are overheated in the winter to suit the women and overcooled in the summer to placate the men.

It has been widely believed that this divergence in comfort requirements is due to physical differences between men and women, aggravated by the differences in the kind and amount of clothing the two sexes wear.

It now appears, however, that the clothing differences play a major role in this double comfort standard. This was revealed in the study by Yaglou and Messer, conducted at the Department of Industrial Hygiene of the Harvard School of Public Health.

This finding resulted from tests of 22 healthy men and 28 healthy women who spent several hours reading, writing or conversing in an air conditioned room at the school. The same air conditions were maintained in this room during the test as prevailed on that day in the laboratories and offices of the school where most of them were employed, thus simplifying the problem of acclimatization. For one part of the test they dressed and ate the same as when engaged in their regular occupations. Then the women dressed in men's clothes and the men in women's clothes. After two hours had been allowed for each of the two groups to become adapted to the other's clothing, the temperatures of the skin, clothing and body were obtained, together with the degree of comfort of the members of the two groups.

By means of a special instrument used in measuring small variations in the degree of heat, the surface temperatures of clothes and exposed skin and those of the skin under the clothing were obtained. By taking measurements on seventeen representative areas of the body the mean skin and clothing temperatures for the whole body were computed.

When the two groups were wearing their customary winter clothing and had become adapted to a temperature of 72 F., with the air containing about 30 per cent moisture and moving at approximately 20 feet per minute, it was found that the women had a mean skin temperature about 2 degrees F. lower than that of the men, while their mean clothing temperature was 2 degrees higher. The hands and feet of the women averaged almost 5 degrees cooler than those of the men, their arms 4 degrees cooler, the legs and head 2.5 degrees cooler and the trunk only 0.5 degree cooler. Most of the men were comfortable under these conditions but the women complained that they were cold. The temperature had to be raised to 76 F. to make most of the women comfortable,

but the men then complained that they were too warm. It was found that the mean skin temperature of both the men and the women was just about the same when each group was comfortable, i. e., when the room temperature was 71.5 F. for the men and 76 F. for the women, their skin temperature was about 92 F. However, the mean clothing temperature of the women under comfortable conditions was about 5 degrees higher than that of the men when they were comfortable.

When the room temperature was 80 F., comparable to warm summer weather, the women were comfortable but it was too warm for most of the men. At this temperature the mean skin temperature of the women still was a degree lower than that of the men and the clothing temperature a degree higher. At about 94 F., when the skin and clothing temperatures approached the air temperature, the differences in mean skin and clothing temperatures of the two groups disappeared.

Evidence of the clothing factor in the double comfort standard was obtained when it was found that both men and women were comfortable when they wore similar clothes at about the same environmental temperature. A temperature between 82 and 83 F. made both men and women comfortable when they wore a minimum amount of clothing. The men, when dressed in women's summer clothes weighing 0.8 of a pound, excluding shoes, wanted a temperature of 80 F., approximately the same as that preferred by the women when they were similarly dressed. However, the men wanted a temperature of 76 F. when they wore their own summer clothes, weighing 3 pounds.

Reversing the process, the investigators found that the women wanted a temperature of 72 F. when they wore men's winter clothing weighing 6⅕ pounds, instead of their own weighing 1½ pounds. This was only 0.5 degree higher than that preferred by the men when wearing similar clothes.

Another interesting finding was that the clothing temperature of the women when dressed in men's attire was unusually low. The investigators ascribed this to the fact that men's clothing was too large for them and the area for heat loss was thereby considerably increased.

Regardless of air temperatures, varying from 53.5 to 84 F., the amount of clothing worn, ranging from 0 to 14.5 pounds, and the season of the year, the study showed that both men and women, with few exceptions, were comfortable with mean skin temperatures between 91.5 and 93.5 F. Under comfortable conditions the mean skin temperature of the women appeared to be on an average half a degree lower than that of the men.

The two investigators point out that the close relationship between mean skin temperature and comfort does not hold during heavy muscular work or during abrupt changes in the blood vessels of the body, such as take place when there is exposure to sharp temperature contrasts in warm weather.

They further explain that the mean surface temperature of clothing and exposed skin is definitely a poor index of comfort. This temperature varied in their tests from 67.5 to 92.0 F. under comfortable conditions, depending largely on clothing. When additional clothes were worn the clothing surface temperature always was lowered and the mean skin temperature and sensation of warmth increased.

They found that humidity had no appreciable influence on the results in their test except in warm and humid atmospheres. There likewise was shown no significant change in the temperature of the body, as measured by a thermometer in the mouth, due to variations of room temperature and the amount of clothing worn.

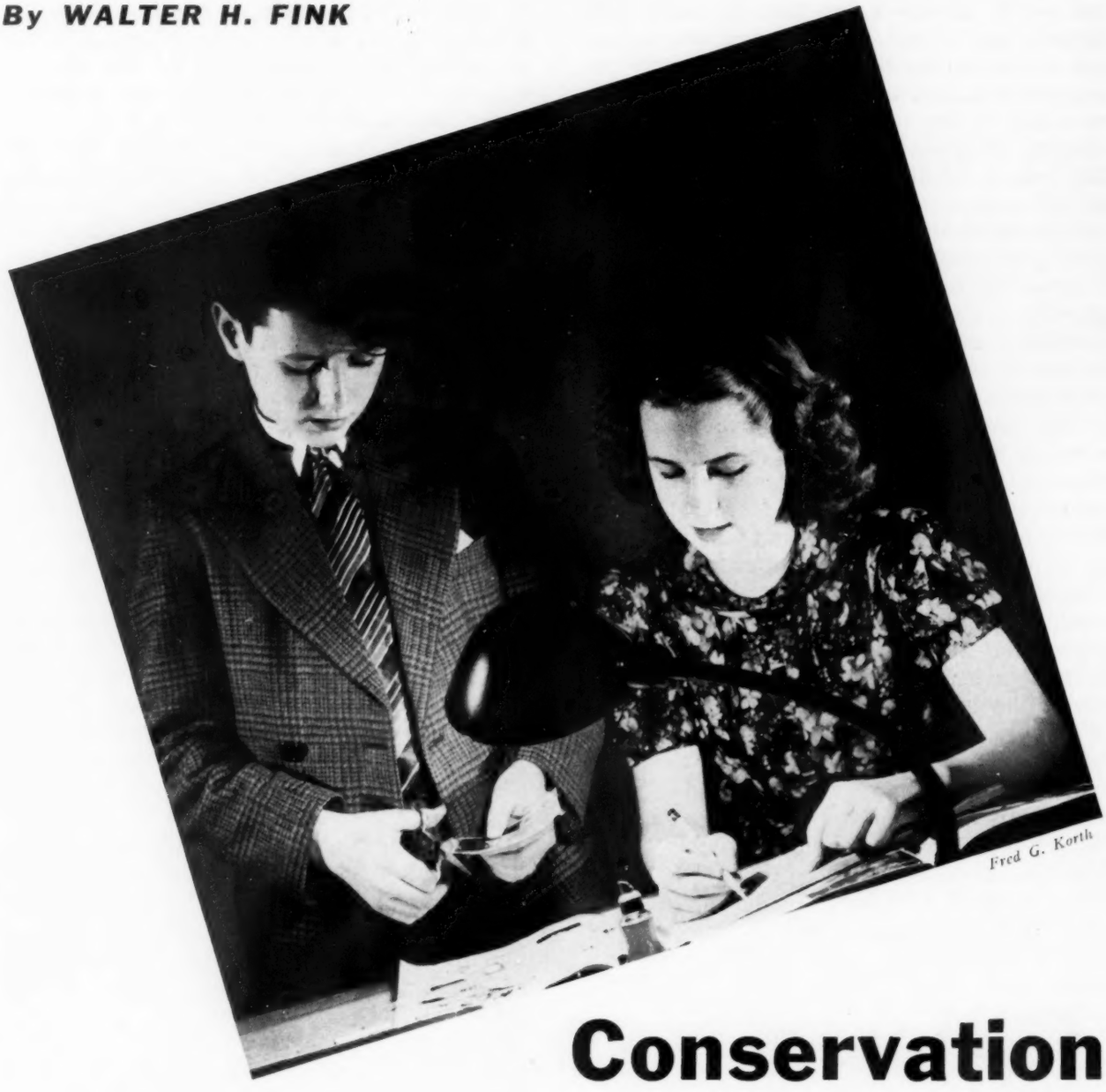
From their study, the authors conclude that the differences of comfort standards between men and women, as well as individual differences, are due largely to differences in dress and that they can be reconciled by adjustments of clothing according to susceptibility to cold or heat.

They say that there would be less discord over the matter of room temperature if women would dress in the winter with clothes comparable in warmth to those of men because they then would be comfortable in a temperature of about 72 F. instead of 76 F.

At the same time, they advise that difficulties now experienced with sharp temperature contrasts in hot weather would be alleviated if the men would take off their vests, coats and collars because buildings then would not have to be cooled below 83 F. Most buildings are cooled to temperatures ranging from 76 to 80 F.

Aside from eliminating the discord between men and women over building temperatures, the investigators say that the reconciliation of the double comfort standard also would reduce the cost of heating and cooling buildings.

By WALTER H. FINK



Fred G. Korth

Conservation

CONSERVATION OF VISION in children is an important phase of ophthalmology. It is apparent that its importance is not generally recognized if one is to judge by the number of preventable ocular tragedies which occur. This fact is repeatedly brought home to the oculist who, in his daily work, sees children's eyes that are performing work far in excess of their strength, and that are working under a severe handicap. As a result young eyes are being irreparably damaged.

The early care of children's eyes is of special significance because at this time of life the eyes are in a process of development. Being vulnerable to fatigue, improper care leaves changes of much greater importance than later in life. If a better understanding of this problem existed, much of the needless loss of visual efficiency could be prevented.

To more fully appreciate the necessity for conservation measures as applied to the eyes of children, it is necessary to be acquainted with the results of ocular neglect. That we have not obtained a high degree of efficiency in the care of children's eyes is evidenced by statistics. A recent survey in the public schools

of Pennsylvania of 200,000 children in kindergarten through the 12th grade revealed that 20 per cent of the children were suffering from defective vision or eye strain. These findings conform with conclusions arrived at by other investigations. A reliable authority states that there are five million children attending the elementary schools in the United States who have eye defects. Other estimates show that approximately two million school children are retarded in their studies because of their eyes. The cost to the American public school system because of this neglect is about 130 million dollars annually. Another important fact is that up to a few years ago even simple eye sight tests were given to less than 17 per cent of the children enrolled. Even at present this percentage is low, especially in the rural areas where practically nothing is being done concerning visual checks. In a recent report by the Eye College, students in the United States, an estimated 15-25 per cent, enter college with more or less serious ocular defects and many more develop them during the college years. These statistics are impressive and drive home the magnitude and the importance of the problem of conserving vision in school children.

Much attention and discussion is centered around the school child but it is of far greater importance to focus our attention on the preschool child, because it is at this time in life that the eyes go through their greatest period

# of Vision

of development and are most vulnerable. This is the period when vision develops most rapidly and when all interference to development must be eliminated. The eye at this stage is in a plastic state and improper management will cause permanent defects to develop. In considering conservation of vision in children we must be acquainted with ocular conditions which may develop at all periods of infancy and childhood.

Many ocular tragedies can be prevented if, before the birth of the child, proper treatment is begun. In a large percentage of cases, treatment of the mother protects the child against diseases such as syphilis. Toxemia of pregnancy, focal infection and diabetes should be guarded against. These prenatal afflictions of the child's eyes in many cases can be avoided if the obstetrician will take the necessary precautions. Likewise during the birth of the child ocular damage may occur due to prolonged labor, or the use of forceps. Immediately after birth, the baby should be examined for congenital defects. Early care may greatly modify the outcome.

Heredity plays an important role in the development of the eyes. Like many other physical characteristics which we inherit from our parents, we also inherit, as a rule, their type of eyes. This eye pattern is laid down when life first begins. To illustrate: A mother has perfect eyes; the father has worn myopic glasses for years. Their new born child should be observed periodically from the cradle up, as this tendency to myopia may begin at an early age. The earlier it is detected and the earlier the proper precautions are taken the more the myopia can be checked. Hereditary conditions are not uncommon and every ophthalmologist has had experience in dealing with them. In 1,024 families in which hereditary blindness prevailed, Loeb found that 60 per cent of the 4,155 children produced had inherited eye defects. Hereditary defects other than refraction may be present, such as undeveloped pupil or choroid, glaucoma and displaced lens. These are difficult to cope with, and demand early attention. The most common and important defect is congenital cataract.

Many babies become blind because of ophthalmia neonatorum. A generation ago, ophthalmia neonatorum caused more than one fifth of the cases of blindness in children. As a result of organized effort, recent admissions to institutions for the blind showed only one child in fifty blind from ophthalmia neonatorum. This is contrasted with former records where one child in five was admitted because of blindness due to ophthalmia neonatorum. It seems evident, therefore, that we should stress the importance of a careful ocular examination of the newborn child's eyes to eliminate the possibility of abnormal development, birth injury and birth infection.

Following the period immediately after birth the eyes of the infant should be periodically observed. Excessive strains, such as forcing the child to play with a rattle, or the use of

a bright light cause the eyes to alter their shape, which change demands the use of eye glasses later in life. It is commonly thought that glasses cannot be fitted before the child is several years of age. This, however, is not the case, and it is not uncommon to fit glasses to children under 1 year of age. With the proper examination, the defect can be accurately measured. Even at this early age it has been found that the child resents removal of the glasses. When the high degree of error, which is present in cases of this type, is corrected properly the eyes develop normally, whereas without the glasses partial vision would have resulted. Thus, all parents, particularly if one of them has an ocular defect, should have the child's eyes watched closely at an early period in life. This applies not only at birth but also at yearly periods following birth. The preschool child is the most neglected from the ocular standpoint and this period offers the best opportunity to promote maximum ocular efficiency. Neglect at this time leads to irreparable damage to the eyes.

An important consideration in the conservation of vision in children is the avoidance of ocular fatigue. The child's eyes should not be used at close range to any extent compared to the adult. Such strains as movies, prolonged reading, or drawing cause a high degree of fatigue and should be avoided. In early childhood, when the object looked at was not interesting, the child looked at something else; when he had looked until his eyes began to feel tired or uncomfortable, he stopped looking. He looked when he pleased and at what he pleased, and as long as or as short a time as he wished. By the time a child starts to school, his eyes have had a large part of their training. Education puts the eyes to work and keeps them at one job until it is done, even if the eyes are tired. The working hours of eyes have a tendency to lengthen instead of shorten as the child grows older. This frequently results in ocular fatigue, and much harm can be done not only to the young eyes but also to the nervous system. It is, therefore, necessary for older persons to see that the conditions for eye work are good, the school hours not too long, and the work interesting. In this way many factors causing ocular fatigue in the child will be eliminated.

Another important consideration in the prevention of eye defects in the child is proper illumination and the elimination of glare. This problem begins at the very earliest time in life. With the newborn child one must remember that the room should not be kept too dark as good illumination is necessary to stimulate visual development. Likewise, light which is too bright is actually harmful. In a preschool child the parents should see that the child uses his eyes under proper illumination. The child who is cutting pictures in a darkened corner, or who plays with a toy in the early morning before there is adequate light in the room, should not be allowed to use his eyes for a long period of time at close range because excessive fatigue is harmful. The problem of light in the school room is of vital importance, and fortunately school rooms are usually well and properly illuminated. Home conditions, however, should be watched. Authorities estimate that a light which gives 10 candle power is the minimum illumination advisable. They warn that illumination should not be excessive as it is just as harmful to have excessive light as insufficient light. When a question about proper illumination arises, it should be checked carefully. This is done gratis by the electric company and their recommendations are usually valuable. Proper lighting is especially important when the child is ill or recuperating from an illness. It is during this time that the eye, like the rest of the body, should be at rest. In many instances, unfortunately, the sick child lying in bed amuses himself with toys, drawing, or reading and as a result frequently strains his eyes.

It is important to think about the amount of light in the home and in the school room, from what direction it should come, how the eyes should be placed with reference to light, how long the average young eyes can be kept doing one thing without change, and what size of letters to use during the required hours.

Uncorrected refractive errors are often the origin of distaste for reading and other school work. It is important for the child to have his eyes tested to make sure that he is not starting school life with an impossible handicap that can result in permanent physical damage to the eyes, an ineradicable distaste for school and a fixed idea of mental inferiority. The healthy child does not like to be punished by eyestrain and, without thinking much about what his sensations are, he avoids instinctively those sensations which are unpleasant. This may cause his entire education to be a failure, but it does save his eyes and nervous system from harm. If the instinct is the only safeguard afforded, nature *(Continued on page 1000)*

The Great American Stomach

By ALBERT SOILAND

IN ANCIENT ROME, gourmands, after the first formal feast of the day, retired to the vomitory and, by the simple trick of poking a finger against the uvula, divested themselves of everything they had eaten. Thus were they relieved and refreshed, ready to renew the battle with gustatory acclaim.

History, however, does not reveal how these *bon vivants* subsequently fared, nor is it related to what extent these lusty blades fell heir to acute gastritis, ulcer, spastic colitis or cancer. In those days of hardy warriors and rugged foods, it is safe to assume that many succumbed to gastrointestinal diseases at a relatively early age, despite their hardiness.

For the pilgrims only hard work, privation and plain simple foods were available, and no medical record was made which would reveal the prevalence or presence of gastrointestinal disorders in those early American days.

Hard work was still the order of the day with the dawn of Twentieth Century civilization. But simple food? Decidedly, no! With the coming of new and unheard of wonders—electricity, telephones, automobiles, radios and innumerable other stimulants to lethargy—new foods were introduced, rich, rare and racy. Then came the deadly cocktail, sufficiently potent to smash the atoms in a slab of concrete, to destroy human gastric mucosa.

All this, together with the present trend of events—breakfast on the run, lunches on the gallop, and a beefsteak dinner eaten in twenty minutes—is largely responsible for our comparatively new national disorder: the Great American Rebellious Stomach. We became a nation of rapid-fire business men, rural and urban, whose sole purpose in life now appears to be a mad desire to see everything, do everything and eat and drink everything in the shortest possible time!

Thus, America has surpassed the world in developing weak stomachs, nervous stomachs and gravely diseased stomachs. And here, incidentally, lies a strong contributory factor to the increasing death rate from heart disease in comparatively young men.

In no other country are so many remedies advertised for gas pains, sour stomach, distress, nausea and heartburn. Fast-going Americans reach into their pockets about 10 a. m. and again at 3 p. m., each to fish out his own pet pill, tablet or lozenge. Two chews and both pain and distress vanish—a tribute to the concerns who make such alkalizers so pleasantly flavored with peppermint. In fact, that ingredient alone is often one half of the medication.

During the past forty years the opportunity to view the human stomach at work has been afforded a great number of medical scientists the world over. This is one of the brilliant accomplishments made possible by the x-ray. At the first experience it is unbelievably startling to watch a prepared opaque meal enter the mouth, slide down the gullet and through the esophagus, in hops, skips and jumps; then to trickle into the stomach until that pouch stands out in black relief like a Scotchman's bagpipe. Thus we are able actually to see and observe the frequent contortions of the stomach attempting to relieve itself of its pendant load. If all goes well the meal goes through into the duodenum in jets, spurts and occasionally by mass movement. After that its journey to the terminal colon may be unimpeded, or it may again be confronted with abnormalities which can be described only in a text book on gastrointestinal pathology. Of course, one meets many congenital abnormalities, among which the so-called upside down stomach is more common than generally believed. However, the size, shape and position of the stomach is not necessarily important if it has good functioning valves at its intake and outlet.

Radiologists have surpassed the old anatomists in being able to study live stomachs in action, some of which are fearful and wonderful to behold. They range in shape, size and position, somewhat in conformity to the anatomic nature of the person. The tall or thin person will probably possess a vertical or fish-hook type of stomach. This type empties more rapidly, which may be one reason why the slender person remains so throughout life.

The cowhorn shaped stomach lies at right oblique in the abdominal cavity from its upper junction with the esophagus to the "Bishop's cap" of the duodenum below. This type of stomach appears most frequently in the anatomy of the average American citizen. It functions well and is second only to the fish-hook variety in ability to take punishment, alcoholic and otherwise.

The transverse stomach extends across the middle of the abdominal cavity. This kind may be more troublesome to its owner than all other types of stomachs combined. From the possessors of this transverse type, the health specialists, the diet faddists, and the patent medicine venders derive a rich harvest. The unfortunate person with this type of stomach just loves to eat—almost lives to eat. It keeps its food sufficiently long to permit thorough digestion, resulting in perfect assimilation and small amounts of waste products. In other words, this kind of a stomach tends to obesity, much to the distress and disgust of the stocky person, whose short-coupled waistline unwillingly contributes to keep this stomach well filled in its upper and more or less restricted cage. This also accounts for the little lady's plaint that no matter how much she diets, or how little she eats, the scales never yield anything but bad news.

As a matter of fact, from the general outward appearance of any person, the roentgenoscopist can usually anticipate what the fluoroscope will reveal about the anatomical position of the stomach and the bowels. Naturally, there are exceptions to this rule as in all of Nature's handiwork. Occasionally, a fish-hook stomach is found in a fat person, or possibly a transverse stomach occurs in a thin person.

Any stomach anthology leads to the question of diet and here are encountered various and sundry opinions. Even before the day of food facts and fancies, primitive man learned to select that particular type of food which experience taught him was suitable. The old apothegm still persists: "One man's food is another man's poison." The whole subject of dietetics is so complicated and so vast that authenticated volumes must be studied to obtain a comprehensive analysis of facts.

The Great American Stomach has developed a perverse secretory mechanism. The result is hypersecretion and varying degrees of sour stomach. All acids taken in excess may cause pain and distress, and frequently the most troublesome are the fruit acids. From the admonitions and advertising of food faddists one gathers the impression that fruit acids constitute the staff of *(Continued on page 990)*

The Romance of the Fever Thermometer

Each thermometer is hand made, its perfection depending entirely on the skill of the worker

By S. R. WINTERS

FRUSTRATION reaches its climax when the patient, divulging hair-raising particulars of his recent operation or devastating effects of unheard-of temperatures, has his mouth open to tell the last gruesome detail and is prevented! Plop! into the open mouth goes a little glass tube, and a voice murmurs, "Keep your mouth closed tightly, please." After an undignified gasp and a strangled "glug" the patient does just that—keeps his lips taut while he makes indignant noises calculated to indicate his disgust in no uncertain terms.

But he doesn't remove that tube, nor refuse to do the bidding of the nurse, nor demand his right to continue the saga of wisdom so rudely interrupted. Why? Because he knows that the glass tube thrust at him so regularly and unceremoniously is a test of his well-being, one of the most important devices known to doctors for determining the state of the patient. It is the thermometer. The patient may be all burned up—but the thermometer registers only his real temperature.

This it does with a remarkable degree of accuracy. Thermometers have come to have an important place in modern life because of that accuracy. Many industries would be conducted as gambles without them. They may be the humble recorder of weather hanging by the kitchen door, or they may furnish science with the exact control of practically everything that enters the life of our modern world. The butcher, the baker, the ceramic maker no longer guess. They know! Beer and asphalt, ink and icecream, steel or jelly mixers, packing houses and hot houses depend on the accuracy of the thermometer. Thermometry is one of the vast modern scientific fields.

But it really began over 200 years ago. Fahrenheit is the name most commonly recognized in relation to the recording of temperatures. He lived only 50 years (1686-1736) but he began the romance of recording temperatures in a remarkably accurate way for his time, and his name becomes more famous with the years.

There were thermometers before Fahrenheit's. Galileo is credited with an air thermometer. But atmospheric pressure affected the readings. Around 1600 he invented another one—an open tube with a column of liquid in it. In 1761, Sir Isaac Newton used linseed oil as the fluid. Halley, of comet fame, had ideas on the subject. The best thermometers up to 1700 contained spirits of wine and were, as somebody has pertinently observed, "quite as erratic in their conduct as any human consumer of that familiar chemical."

No less than thirteen kinds of thermometers were in existence during the days of Fahrenheit. His was the most successful because he learned to utilize mercury. Other suitable liquids have been discovered since. Mercury, alcohol, or ether confined within a bulb on the end of a glass tube, or hollow stem, will expand and rise within the tube when the bulb is heated, or it will contract and withdraw into the bulb when the latter is chilled.

The clinical thermometer is the kind used by physicians for determining the temperature of the human body. The ordinary thermometer consists of a glass tube of very narrow bore which opens out into a bulb at one end. This bulb and part of the capillary are filled with the thermometric substance—usually mercury. The tube is marked to show temperature. Clinical thermometers are rarely marked

Final certification is made after more than 85 separate manufacturing steps and inspections.

below 95 or above 115. The graduation on these instruments is so fine that the temperature can be read to the tenth of a degree or so.

Normal body temperature is the balance maintained between the heat produced and the heat lost. Fever is caused by a disturbance of the heat-regulating centers. Bodily temperatures are secured by placing the thermometer at one or more of three parts of the body, normal temperature varying somewhat with the location. Mouth temperatures show normal at 98.6, rectal at 99.6, and axillary at 97.6 F.

The lowest limit of temperature a man can endure depends on many things but no one can survive a temperature of 113 F. or above for any appreciable time. Rise or fall of 10 or 12 degrees in a brain temperature is enough to kill any person, at least if it lasts more than a few minutes, and in a healthy man or woman the temperature rarely varies as much as 1 degree on each side of the average.

The cells of the body of man are adapted to a temperature range of about 95.8 F. The extremes are approximately 21.2 F. and 117 F. The former is the limit set by the freezing-point of protoplasm and the latter is the point at which the protein begins to coagulate.

Man can stand a much wider variation of external temperatures because of protecting and adjusting mechanisms which prevent the body cells from reaching their extremes. The length of time over which the body is exposed is important. The adjusting mechanisms are efficient enough to enable a man to survive an external temperature of 248 degrees for a few minutes but if the body temperature reaches 108 F. and is permitted to remain at even this low temperature for more than two hours, the proteins of some cells will begin to coagulate. It is for this reason that 108 is considered as a critical height for sustained fevers.

At the cold end of his temperature range, man can withstand temperatures as low as 40 to 60 F. provided he is active and not too long exposed. Reincke reports the recovery of a drunken man who had been exposed to cold and showed a rectal temperature of 75.2 F.

Medical history records many strange cases of hyperthemia, which is defined as excessive heat in man, usually above 105.8 F. Doctors have seldom been able to agree on which were faked and which were real. Richet, a French writer, records 109 examples of temperature from 107.6 to 112.2 F. There were 13 survivals in this group. There is general unwillingness to accept as valid any observation of temperature above 114.8 F. He mentions the famous cases of Jacobi and Heber Jones, both of whom faked exceedingly high temperatures. Richet was utterly scornful of such cases, but reported the case of a person with a temperature of 111.6 F. who recovered.

One case in a London hospital recorded temperatures of 114.2 and 116.6 but readings were found to be inconsistent and it was discovered that poultices and hot-water bottles had helped the upward flow of the mercury in the thermometer.

Tales are told of another patient whose method was never discovered but whose temperature reached 128 F. The doctor was convinced that this woman patient reached a genuine temperature of 109 and 111 at different times. It was diagnosed as a case of mixture of genuine and fraudulent hyperthemia. In the famous "Omaha" case, special thermometers with simultaneous readings at one time were 145 F. in the axilla and 125 beneath the tongue. This was done in spite of every precaution to detect fraud, with witnesses present at every angle, and the patient seated naked on a chair in the middle of the room. And still the method was not discovered! There have been cases of hysterical fever which seemed to reach high recordings and to do so authentically. One woman fell ill of some great disappointment, lay absolutely insensible in a coma for days, and yet reached a temperature of 111.2 F.

Outside of the ordinary technical frauds such as hot-water bottles or steam heat there are many methods which have been discovered. Some patients seem to have a positive genius for such but have little wit at anything else. One is described in this manner: "If one holds the thermometer shaft parallel to the index finger with the bulb firmly pressed into the ball of the finger and then rubs the bulb and the adjacent finger tissue vigorously with firm pressure on a taut piece of cloth, one will quickly sense the increased temperature in the finger, and the column in the thermometer may be caused to record a high temperature." It takes more skill to displace the column of mercury by mechanical jarring. By vigorous snapping the upper end of the thermometer with the finger or thumb, so as to drive the glass toward the bulb, one may displace the column of mercury toward the top of the instrument. *(Continued on page 990)*

United States Meat Inspection

By WILLIAM H. LIPMAN

MAN HAS ALWAYS eaten meat; the cave dwellers of Europe of the early stone age consumed the flesh of animals and fish. But perhaps the earliest known meat inspection laws were those contained in the food ordinances of the ancient Egyptians, administered by the priests. These laws were in all likelihood the basis of the Mosaic food laws which were also carried out by the priests.

Old Athens and Rome exercised control and supervision of abbatoirs and meat markets and official inspection of meat was conducted in them. Laws governing the preparation and sale of meat were enacted in various states and cities of Europe but they were based largely on sentimental or religious grounds. Not until the nineteenth century was scientific meat inspection a legal requirement in some of the European countries.

In the United States scientific meat inspection did not prevail until it was placed under the jurisdiction and made a function of the Bureau of Animal Industry of the Department of Agriculture, although some form of inspection was previously carried on under local authority by a few municipalities.

In the closing decades of the nineteenth century the leading European countries passed laws excluding American meats because of lack of inspection. In order to revive the export meat trade which was seriously affected by the exclusion, Congress passed an act in 1890 providing for the inspection of salted pork and bacon. In 1891 it passed a more inclusive law which provided for the antemortem and postmortem inspection of cattle, hogs, sheep and goats going into export and interstate commerce. The Bureau, which had been organized in 1884 for the purpose of studying the nature, causes and prevention of diseases of animals, assumed the duties of meat inspection on the passage of that law. From then on the history of the United States Government meat inspection is one of progress and advancement to meet the newer developments in veterinary and medical science and hygiene.

Today meat inspection is based on the Meat Inspection Act passed by Congress June 30, 1906. This law provides for the antemortem and postmortem inspection of the carcasses and parts of cattle, swine, hogs, sheep and goats entering interstate or foreign commerce. In 1919 Congress passed an act providing for the inspection of horses and horse meat. Actually few horses are slaughtered in this country in normal times and much of the meat is exported.

The provisions of the Meat Act of 1906 include:

(1) Antemortem and postmortem inspection of carcasses and parts.

(2) Sanitary control of the premises and equipment used in the slaughter of food animals and the preparation of meat food products. Exclusion of substances in the preparation of meat that may be injurious to health.

(3) Exclusion and effective destruction of carcasses, parts and prepared meats found unfit for human consumption.

(4) Proper branding, stamping or labeling of all carcasses, parts and prepared meats that have been inspected and found wholesome and therefore passed for food.

The antemortem and postmortem inspection is based on modern veterinary science, particularly related to the transmissibility of some diseases of animals to man.

Antemortem inspection means an appraisal of the condition of the animals before slaughter. Animals not showing signs of abnormality are slaughtered and examined postmortem. Those that present symptoms or signs that point to the possibility of the presence of disease or some abnormal condition are identified with a tag to show that they are so suspected. After slaughter, antemortem findings are

Government antemortem meat inspection is made before the animals are offered for sale. Buyers and commission salesmen (representing the producer) here look over a yard of high-grade cattle.

Below, the Government meat inspector, in white cap, examines a side of choice beef.

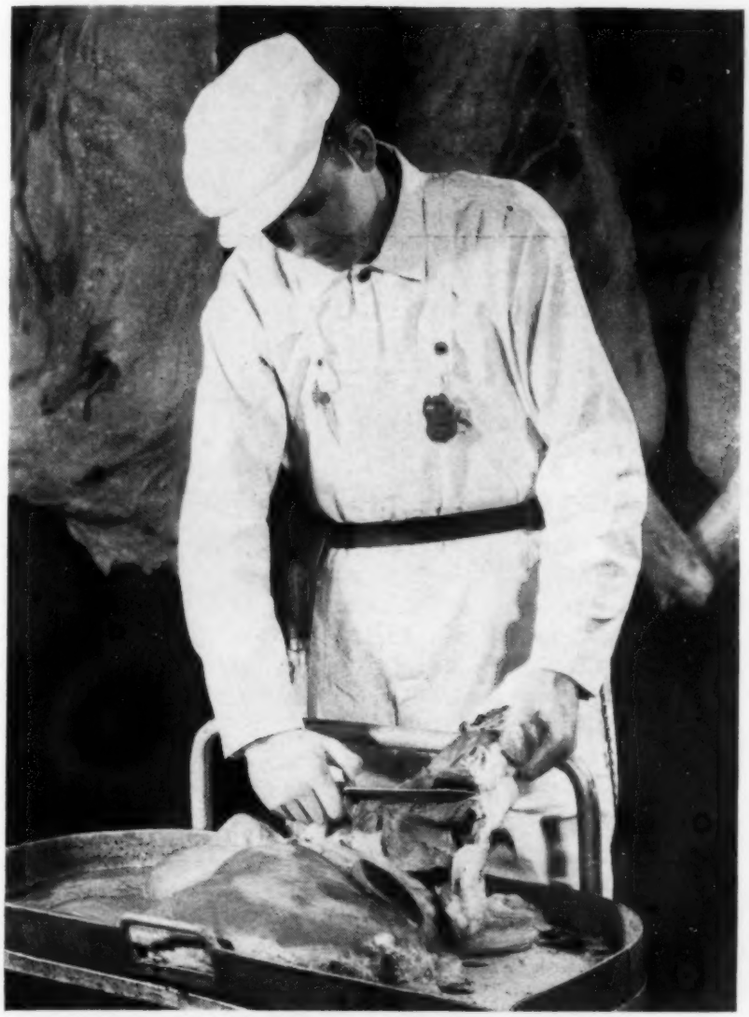
correlated with those disclosed on postmortem examination in the final decision of the suitability of the carcass and parts for food. However, when an animal is found on antemortem inspection to be affected so severely as to make it reasonably certain that it is not sound or wholesome, it is condemned and destroyed without sending it to slaughter with the other animals.

Postmortem examination includes inspection, palpation and incision into those parts that are most likely to show signs of disease or other abnormality. Included in these are lymphatic glands, the organs, oral, thoracic, abdominal and pelvic, and an appraisal of the state of nutrition and health of the entire carcass.

In the final judgment only those parts found sound and wholesome are passed for food and are so marked or stamped. Those found undesirable and unfit for food are designated as condemned, are so branded, and are destroyed.

The inspection is conducted according to regulations and instructions formulated by the Bureau of Animal Industry by graduates of veterinary medical schools appointed by Civil Service examinations and trained assistants. They are employees of the Bureau and are paid by the government.

Some time after the passage of the Meat Act of 1906, President Theodore Roosevelt appointed a committee which included prominent members of the faculties of several lead-



One of the provisions of the Meat Act of 1906 includes the antemortem and postmortem inspection of carcasses and viscera of all animals that are to be exported from the state.

ing medical and veterinary colleges and health authorities to study the inspection and the manner in which it is conducted. The unanimous verdict of the committee was that the inspection procedure was thorough and scientific and constituted a safe protection of public health. They pointed out that the inspection always leans to the side which favors the protection of the consumer.

The sanitary requirements demand that the premises, tools, such as knives, cleavers, trucks, pans and tierces must at all times be clean and hygienic. The premises and the equipment must be washed and cleaned thoroughly at the end of each working day or oftener when necessary. An abundance of light must be provided so the inspection can be properly made and a plentiful supply of hot and cold water must be available at all times. All materials used for wrapping meats, and containers, temporary or permanent, must be made of a substance that can in no way render the meat objectionable.

In the preparation of meat foods only salt, sugar, wood smoke, vinegar, saltpeter, nitrate of soda, nitrite of soda and pure spices are allowed. All the processes employed in the preparation of meat foods as well as the meats used are constantly under the supervision and control of inspectors and other employees of the Government. The labels, brands and other legends on meats and meat preparations and their containers must clearly and truthfully describe them and must comply with existing food laws in addition to the requirements of the Bureau.

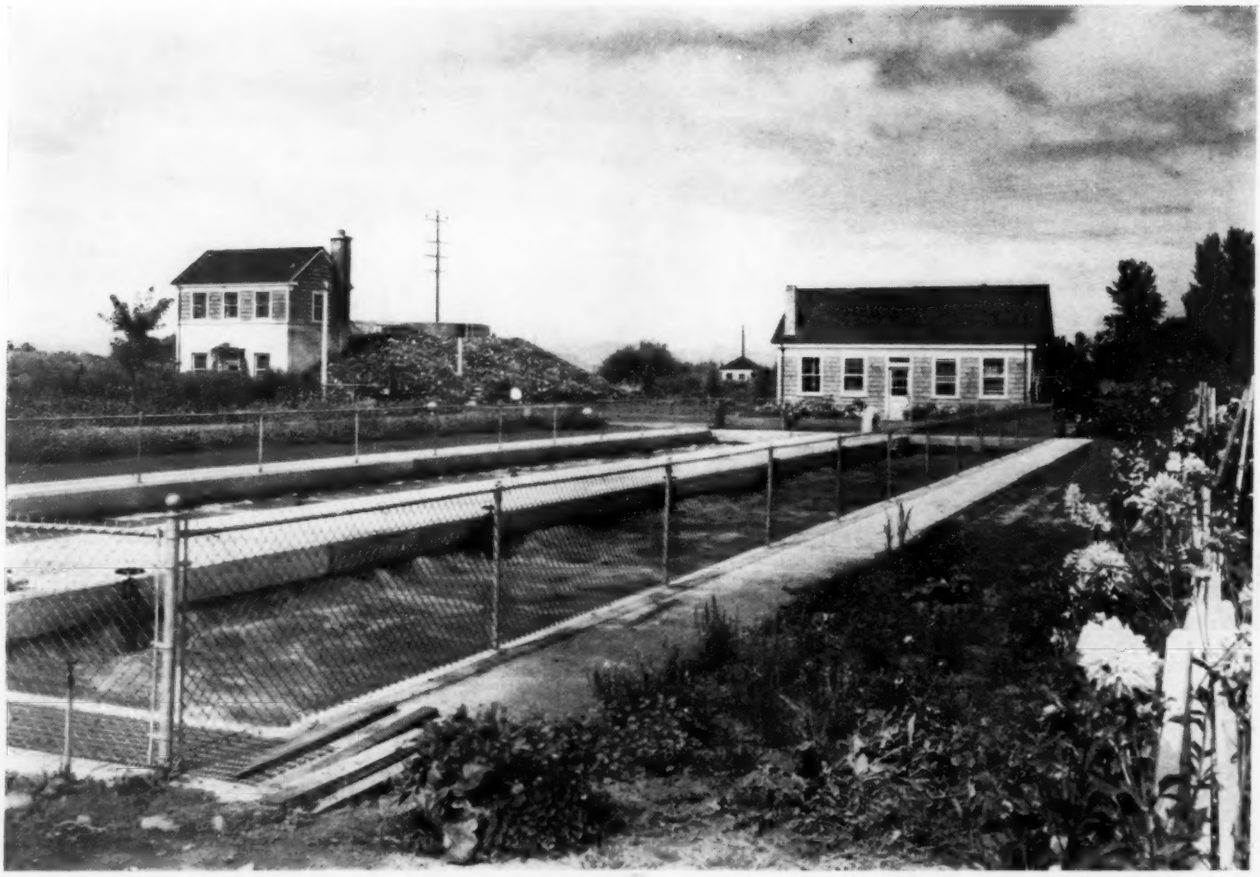
Carcasses and parts as well as finished meats and meat preparations found by inspectors of the Bureau during antemortem or postmortem inspection or during and after preparation to be unwholesome or otherwise unfit as human food are effectively destroyed by rendering at high temperature and under high pressure until changed to such an extent as to make it impossible to use the resultant product for human food.

From the time they are found undesirable or unfit for human consumption and until they are made unusable for food purposes, carcasses, parts and meat foods are kept, properly marked and identified, in the custody of Government inspectors who also supervise and control the processes of destruction.

United States Government meat inspection is a vast procedure and a public health measure of great magnitude. Here are the figures from an article by Edward C. Joss, Chief of the Meat Inspection Division of the Bureau of Animal Industry, in the current Year Book of Agriculture: "During the ten year period comprising the fiscal years 1930 to 1939, inclusive, there was an average annual slaughter of 72,244,260 animals at *(Continued on page 998)*

SEWAGE TREATMENT
and National Defense

By E. K. GUBIN



An activated sludge plant, showing aeration tanks in front of the blower building. The sludge digestion tank and the sludge pumping station appear in left background.

WHEN THE NAZI ARMY of Occupation marched into Belgrade in late April, the first order of the General in charge was that no toilet facilities were to be used by the populace where the flushing waters discharged into the city's sewage system. The ruthless but efficient Nazis knew their bombs had damaged the sewage disposal system of Belgrade, and that an epidemic caused by sewage polluted water could destroy not only the conquered people, but the conquerors as well.

The Nazi General Staff realized that even its well trained and horribly effective Panzer units were no match for the armies of typhoid, cholera and dysentery.

In America, too, we recognize the importance of adequate sewage disposal in any real national defense effort. Our public officials are now much concerned over the danger of water pollution in the cities which mushroomed as a result of the building of new munition plants and army camps. Many of these boom cities do not possess even ele-

mentary sewage disposal systems, and most of them do not have the financial means to build such systems.

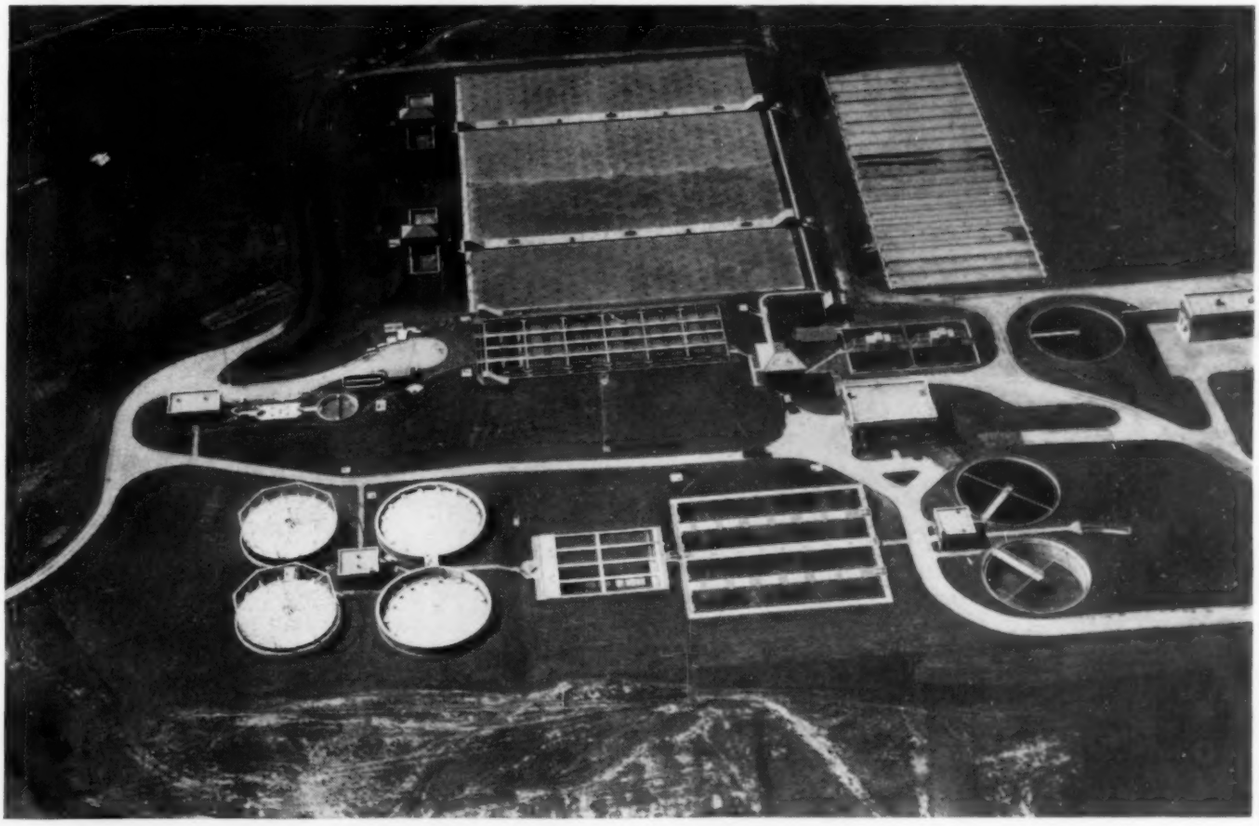
Recognizing that one epidemic caused by sewage polluted water can cause more deaths than many enemy bombing planes, the federal government is planning to use federal funds to build proper sewage disposal plants in these boom cities. The Community Facilities Bill recently signed by the President provides for $53,000,000 to be used in building these plants, and it is possible that a larger sum than this will be finally appropriated.

Although United States communities expend about $100,000,000 yearly for sewage treatment plants, this is far below the amount necessary to give all of our communities adequate protection against the spread of water-borne diseases. Sewage treatment plants in the United States today number about 5,750 and many of these plants are far from efficient. Moreover, they serve only 55,000,000 out of the approximately 78,000,000 persons who reside in incorporated communities in the United States.

Sewage disposal has existed since ancient times. Evidence of this is found in the ruins of cities even dating from 3,300 B. C. However, it is only in recent years that sewage treatment has really been recognized. Septic tanks came into broad use only forty years ago, and even today treatment in 75 per cent of the sewage plants in the United States consists merely in allowing sewage to remain in a tank for a short time where the heavy solids settle to the bottom, to be removed later as smelly sludge, and then discharging the liquid containing the remaining solids into any convenient body of water.

Normally only 30 to 40 per cent of the solids in sewage settle in the tank, and the remaining solids are discharged into streams or convenient water courses, irrespective of their typhoid, poliomyelitis, or dysentery content. Thus it is obvious that the amount of damage caused by this inadequate treatment of sewage in the United States has been, and is, tremendous.

Sewage contaminated water in the past seventeen years has caused 500 traceable epidemics with 125,000 known illnesses and 1,200 known deaths. The untraceable deaths and illnesses are said to be much more. It is well



The new activated sludge plant at Madison, Wis., is shown in the foreground.

known that typhoid and dysentery can be acquired through sewage contaminated water, and tests show that infantile paralysis (poliomyelitis) virus is found in sewage, but still cities fail to provide adequate sewage treatment.

Inestimable losses to sportsmen and communities in recreational value result yearly through sewage pollution of coastal waters, inland streams and waters; millions of dollars in income is lost to commercial sea food interests each year through pollution. Still, little is done to prevent pollution by sewage because of general public apathy which pervades most health-protection projects, and because of the large cost of the average sewage treatment plant.

Sanitary engineers have long experimented with methods of sewage treatment that could be used in cities of 5,000 to 20,000 population, where low cost of construction and flexible operation are essential. One of the most recent methods developed is called the "Non-Biological, Odorless Process," and it is now in successful operation in three communities. Plants using this process are simple and inexpensive to build, easy to operate, and the process is said to have many advantages over all other methods in use today.

This new process of sewage treatment removes 99 per cent of all solid matter in sewage, while the best of other processes removes only up to 89 per cent and this only by using costly and complicated machinery. Most processes have a lot of smelly sludge (sewage solids) to dispose of. The new process simply converts this sludge into carbon, and uses this carbon to "inoculate" and de-odorize the incoming sewage. Thus, in effect, the sewage helps to treat itself.

Chemicals such as lime and ferric chloride are also used in the process, but apparently the use of carbon made from sewage is the means of securing the high degree of solid removal. Use of this carbon also reduces the cost of operating the plant as it saves buying other chemicals.

One of the most interesting factors in the new process is the complete absence of odor. This is miraculous for sewage has an unpleasant odor at any stage, and the average sewage plant must thus be built away from the city or from areas where winds will spread the odors into the city. The new method removes the disagreeable odors when the sewage enters the plant, and it can thus be constructed in the heart of a city if necessary, or at any economical collection point.

Because of its simple operating features the new process requires only simple and inexpensive machinery, and simple and inexpensive construction costs. In addition, new units to take care of additional sewage resulting from a growing city can easily be added with little cost in this new process.

An interesting example of a plant using this process is that of the Glenwood Manual Training School, at Glenwood, Ill. This was built in 1937 at a cost of $17,500, and due to its odorless operation is located within a few hundred feet of the surrounding homes. It treats 40,000 gallons of sewage daily at an average cost of $104 per month. The plant equipment is so simple that it is operated by the boys of the school.

The use of the new method at the City of David, Benton Harbor, Mich., stopped a suit for damages for pollution that had been filed against the city. This plant is situated in the midst of cottages, within 60 feet of an auditorium, and 75 feet from a commercial bakery. Its odorless operation prevents any complaints.

The development of this nonbiological, odorless method should be of great value to the smaller cities that up to now could not afford a sewage treatment plant, and it comes at an appropriate time when cities that are mushrooming in size due to national defense activities are casting about for some simple and efficient method of sewage disposal.

The Transcontinental

How shall I round the moment into words?—
That soundless throbbing like a sleeping heart
Beneath the hand, felt, though it is not heard.
The looking skyward and the dipping start
(Like field mice from a hawk.) There in the gray
Of desert twilight, deep as dust and still,
And muffling, sped the plane its northward way;
A phantom hawk moved by a phantom will,
So silent, yet so real the pulsing air
Quivered its presence on the sentient ear.
Big! so the eyes grew taut to see it there,
Too unexpected and too very near!

—Virginia Brasier

WHY DOES MY BABY NEED INTERMEDIATE FOODS?

BECAUSE HE SHOULD LEARN TO CHEW AS EARLY AS POSSIBLE—YET MOST ADULT FOODS ARE TOO COARSE AND HIGHLY SEASONED!

TO HELP bridge the important gap between strained foods and family meals, Heinz carefully prepares 12 Junior Foods . . . specially selected and blended for good nutritional value and tempting flavor. Vitamins and minerals are retained in high degree, and only mild seasoning is used . . . no spices.

You can be confident of the outstanding *quality* of these products, because they bear the famous 57 Seal that backs Heinz Strained Foods. And they have received the Seal of Acceptance of the American Medical Association's Council on Foods! Serve your runabout baby delicious, unstrained Heinz Junior Foods!

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Among The 12 Delicious, Ready-To-Serve Kinds You'll Find:

Creamed Diced Vegetables With Rice And Yeast Concentrate. Choice vegetables in a diced or chopped form with milk and rice. Addition of a yeast concentrate improves the vitamin B-1 and G content.

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Creamed Tomato And Rice With Vegetables And Whey Powder. Choice vegetables improve the nutritive value, whey powder increases the content of milk minerals, and soybean flour adds some digestible protein.

Chicken Farina Vegetable Porridge With Milk, Wheat Germ And Yeast. Meat and broth of selected chickens, tasty vegetables, liberal amounts of Durum Farina and wheat germ rich in vitamin B-1 are all cooked in milk.

Your toddler will also like: Creamed Green Vegetables, Chopped Spinach, Chopped Carrots, Chopped Mixed Vegetables, Lamb and Liver Stew with Milk and Cereals, Pineapple Rice Pudding, Prune Pudding, Apple, Fig and Date Dessert.

Shorter days mean longer odds ***—against*** *you!*

Winter invariably brings heavier tolls of traffic accidents. Despite the fact that there are normally fewer cars on the road, there are usually more than one and a half times as many accidents in December as in June.

Shorter days mean more hours of darkness. These shorter days bring with them stormy weather and other seasonal dangers in driving your car. These abnormal burdens are placed on drivers every Winter—and particularly this Winter because rapidly accelerating defense activities put more and more men and cars on the roads.

The careful driver balances increased dangers with increased caution and *pre*-caution. Here are a few suggestions he keeps in mind throughout the Winter months.

The careful driver makes sure that his lighting equipment is adequate and properly adjusted for longer hours of darkness, snow, sleet, and fog; also that windshield wipers and defrosters are working effectively.

He leaves more room than usual between himself and the car ahead, is more cautious than ever about passing cars when approaching hills or curves. On hills, he watches out for children on sleds.

• • •

His chances of skidding are reduced by having brakes properly adjusted, by using tire chains on snow, slush, and ice. The safe driver knows and practices safe driving technique on slippery surfaces. He is always on the alert for the unexpected icy spot.

He remembers to be especially wary of carbon monoxide gas hazards in garages. If his car is a closed model, particularly an old one, he will have it checked for leakage.

The careful driver makes up his mind to travel at speeds reduced to conform with road conditions throughout this season.

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The Great American Stomach

(Continued from page 979)

life, and if one will fill up on these he will become so generously endowed with vitamins that the apple a day axiom is only for the amateur.

The facts are that the indiscriminate use of acid fruit fluids may cause irreparable harm if not indulged in with a liberal allowance of common sense. Almost all authentic textbooks dealing with physiology of the gastrointestinal tract state that the ingestion of acids before meals, including the citric group, diminishes the normal hydrochloric acid to a marked degree.

However, there is no need for any one to refrain from drinking these palatable and enjoyable fruit juices within reasonable bounds, but they should be limited to the time after meals in those persons who are deficient in normal acid secretions.

The Romance of the Fever Thermometer

(Continued from page 982)

Wunderlich, professor of medicine at Leipzig, was first to establish clinical thermometry. He made scientific observation on the relation of animal heat and disease, and wrote a book on the subject which became a permanent scientific classic. When he got through "fever was a symptom only, not a disease," and thermometry became a recognized feature in clinical diagnosis. That was in 1868. Fahrenheit had invented it a century earlier and Sanctorius had made an attempt at clinical thermometry in the early seventeenth century. By 1750 medical men had available an instrument well adapted to measuring the heat of the human body, but they couldn't be persuaded to use it.

It is an interesting fact in medical history that Napoleon, during his last days at St. Helena, had his temperature recorded as a matter

of course by his physician. Although there were no self-regulating thermometers in those days, it must have been read by comparison after withdrawal.

Today's patient finds it almost impossible to believe how recently clinical thermometers came into general use. To illustrate this modernity of their use, one well-known medical authority says: "Thermometers began to make their appearance in English hospitals about 1866-67, and came into general use in 1868-70. They were about 10 inches long, so large in fact, that it took at least five minutes for them to register the axillary temperatures, and so clumsy . . . they were carried under the arm as one might carry a gun." Only two clinical thermometers were available in the Royal Infirmary, Edinburgh, in 1866-70.

About 1870 a large London hospital got its first thermometer. It was nearly a foot long and so great a novelty that it was taken to a southeastern meeting of the British Medical Association for exhibition. To many, it was a highbrow innovation and an object of ridicule. Some doctors record never having seen a thermometer during the Civil War. Dr. Oliver Wendell Holmes says that he saw two in use in the whole of the Union Army. But David Livingstone, a medical missionary in darkest Africa, was using one. Clinical thermometry was popularized in the United States by Eduard Seguin's books of 1873 and 1876. At that time, apparently no thermometers were manufactured in America, and we imported less than fifty a year.

Today there are approximately thirty manufacturing firms in the United States, most of them being small shops, and the demand is about 3,000,000 yearly. About half a dozen large firms produce from 100,000 to 500,000 each. Very few are imported and those are usually of inferior quality.

A commercial standard for thermometers has been set up by those interested in the industry. Any manufacturer who wishes to do so may have his product tested by the National Bureau of Standards. Consistency and accuracy tests are made at three different points: 98, 102 and 106 F., each point being tested twice. The difference in the two readings at each test point must not exceed .2 F. The thermometer must be accurate within .25 F. at the 98 and 102 points, and within .35 F. at the 106 test point. A very high percentage of the test samples must meet the requirements within .15 at the 98 and 102 points. And since thermometers require long seasoning, the Bureau gives the samples three months seasoning just in case the manufacturer forgot the necessary aging process.

Clinical thermometers which have been tested by the National Bureau of Standards are marked if they comply with the test requirements. The mark NBS41 placed on such a thermometer by this Bureau indicates that it was tested during the year 1941 and certifies that, at the time of the test, it was found to comply with the commercial standard set up by common agreement and published by the Bureau.

War presents pressing problems concerning proper supply of clinical thermometers. Three bottlenecks are possible. The first concerns the kind of glass necessary for the tubing. There is only one domestic source. Relatively little tubing is imported. The Corning Glass Works, Corning, New York, furnishes the market. There is no other possible source of any great size.

The second bottleneck has to do with the period of seasoning necessary. After the "blanks" are made (these are thermometers finished except for calibration, graduation and etching) it is necessary for them to go through a seasoning process of from 4 to 6 months. During this time certain expansions and contractions occur which, if the blank were completed before seasoning, would result in making the thermometer inaccurate and worthless. This seasoning period ties up both productive effort and raw material.

The third difficulty is the scarcity of skill. Each thermometer is made by hand, its perfection depending utterly on the skill of the worker. Such skilled workers are scarce and their work is so exacting and trying to the eyes that overtime is impossible. While larger manufacturers turn out thousands of thermometers, the majority are made by smaller concerns which, over the years, have gathered together small groups of skilled workers. Thermometers may prove to be a distinct problem in national defense.

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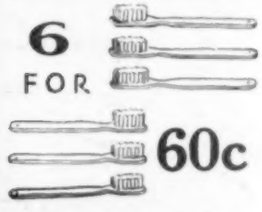

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Braces at Bat

(Continued from page 959)

which allow a lateral motion at the elbow, and later at the shoulder. Proper application of the airplane splint, together with carefully supervised physical therapy, has made possible the full restoration of arm function for thousands of patients whose arms might have been permanently crippled by disease.

Perhaps the most ingenious of the brace makers' devices are those which seek to compensate crippling bone injuries. In many cases where the damage has been too great to permit surgical reconstruction, the brace maker is called on to fashion a mechanical elbow or knee to approximate the natural joint. Best results on such special jobs have been achieved in hospital shops, where close cooperation between surgeon and brace maker combines scientific knowledge with mechanical ingenuity—for the patient's benefit. Hospital brace makers usually have one or two pet cases which they like to describe, showing photographs of an apparently whole man or woman, and then pointing out that the knee is artificial, or that the elbow is operated by wires. Frequently, they have "before and after" pictures to show how a series of corrective braces has straightened a bad spinal curvature.

The visitor who walks the halls of the crippled children's hospital in company with a staff surgeon and the brace shop superintendent finds inspiration in the cheerful greeting which is called from every door. Case files are an enduring tribute to the skill of surgeon and brace maker and the tireless effort of the educational, vocational and welfare workers whose help is required to bring about the adjustment which the handicapped child must achieve in order to lead a useful life in society. Study of a few case histories will usually convince the visitor that whether or not they return to the ball field, most crippled children today are going to get their turn at bat.

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DOCTORS AT WORK will continue the story begun last year of the typical life of a young American doctor and his relationships with his family, his friends, his patients and his professional associates. The program will be produced in the Chicago studios of the National Broadcasting Company from scripts written by William J. Murphy, author of such successful radio programs as *Flying Time, Cameos of New Orleans, Your Health, Medicine in the News* and last year's DOCTORS AT WORK. The scripts will be under the direction of J. Clinton Stanley and the N. B. C. orchestra will be directed by Joseph Gallicchio. General supervision of the program is by the Bureau of Health Education of the American Medical Association.

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NAT'L BROADCASTING CO.

Entertainment and health information for the whole family

Food Fads, Fallacies and Facts: v

By DORIS W. McCRAY

MANY FALSE IDEAS still exist about food and health. Self-styled beauty experts hand out hokum about vitamins and the skin. You are still told that cooking in aluminum utensils is dangerous to health. Cheese is said to be hard to digest and fish is still recommended for developing mental powers.

In food science, as in other sciences, we must first familiarize ourselves with facts already known. School children have a little insight into the problems of nutrition when they have a cage of white mice under supervision. First, the mice must be selected, weighed and fed in such a manner that results can be shown. An elementary demonstration may be accomplished by feeding one group of mice a basal ration that is completely lacking in the vitamins which are contained in milk. Cheese, evaporated milk, or any other food that furnishes similar values, is not fed. The cage of mice which received the milk products will show the results to be obtained from milk.

The only way that we can actually prove whether or not a certain food contains a certain vitamin is by chemical and biologic tests, which are slow, extremely exacting and require all of the necessary materials. Small wonder, then, that the "beauty experts" jump at conclusions instead of arriving at them the slow, difficult way. They will glibly say that "radishes, eaten freely, will remove wrinkles." This is such an obvious misstatement that it is seldom believed. About the only way to remove wrinkles, is to build up a better state of nutrition, with a firm layer of fatty tissue just beneath the skin. In many people it is almost impossible to do this without causing overweight.

Another statement from beauty experts, made with the final tone of authority and stated unequivocably, is that "parsley is a nerve and blood aid." In this respect, it is really no better "aid" than most of the vegetables and fruits. The "aid" vegetables render is in the minerals and vitamins which they furnish.

Carrots are said to "ameliorate harshness of character and reduce nervous irritability." Obvious misstatements. However, carrots do furnish valuable vitamins, useful in the body. Carrots are an excellent source of vitamin A, a good source of vitamin B, and also a good source of vitamin C and vitamin G. Collards have this same group of ratings. Watercress has the same rating except that it is "excellent" for vitamin C. Dandelions have the same rating except that their vitamin C content is only "good." Spinach also has the same general rating except that it is a trifle lower in vitamin B. Thus we study the list and find that the common vegetables will furnish the same vitamins that carrots contain, and that there is not any important reason for their special recommendation in preference to the other vegetables. Carrots supply the following minerals: calcium, magnesium, potassium, sodium, phosphorus, chlorine, sulfur and iron. Practically all of the fresh vegetables and fresh fruits supply these minerals. By varying the menu to serve different vegetables from day to day, one can have a wide assortment, or the list can be confined to the five or six preferred by the family.

The reason why carrots are often disliked is that they have been grown in a type of soil which makes them strong in flavor. The carrots on the market in the middle west in winter, shipped from California, are mild and delightful in flavor and the juice is delicious. They are good when grated and mixed with crushed pineapple, or when cut in strips and soaked in ice water for a few minutes.

Spinach has been boosted by the popular comic-section character who gains amazing strength from eating a can of spinach. This idea is accepted in the same humorous vein in which it is presented. However, it is true that spinach does furnish iron, so useful in hemoglobin regeneration (popularly called building red blood). It is interesting to note the following list of foods which rate higher than spinach in percentage of iron: almonds, avocado, barley (entire pearled), beans (dried), Lima beans (dried), fresh Lima beans, lean beef, beet greens, chard, chocolate, cocoa, dried sweet corn, dried currants, dandelions, dates, eggs, egg yolks, dried figs, dry Graham flour, molasses, kale, olives, oysters, parsley, dried peas, pecans, dried prunes, raisins, rye (entire), soy bean flour, turnip tops, watercress and wheat (entire). This list does not include fresh peas, peanuts and walnuts which are just slightly lower than the figure for spinach, namely .00255 per cent.

The statement of beauty "experts" that spinach will make rosy cheeks and red lips is incorrect in the way that it is worded, yet it is not really so far from the facts, because any food that contains iron will help to build up the hemoglobin of the blood.

The misinformation concerning aluminum utensils is of a different type. Aluminum is found in most of the vegetables and fruits, also in eggs and butter, but the amounts are small, and seemingly not of any consequence. Like other minerals, their composition varies according to the soil. Aluminum is a component of the earth's crust, with its oceans and atmosphere, of about 7.30 per cent. Aluminum is found in the human body, but here again the amount is small, and not listed in the chemical composition. In addition to aluminum in the human body, other minerals are present in small amounts, namely copper, zinc, silicon and flourine. Copper has been found important in hemoglobin regeneration, and flourine important to the enamel of the teeth.

Other elements found in the body range from 65 per cent oxygen down to .00004 per cent iodine, the smallest amount listed. The other elements, listed in order of abundance in the human body are: carbon, hydrogen, nitrogen, calcium, phosphorus, potassium, sulfur, sodium, chlorine, magnesium, iron and manganese.

According to Sherman, "Our bodies have evolved in, and we live in, an environment so rich in aluminum and silicon compounds that it seems improbable that we should be injured by the small amount of our usual incidental intake, or that we should need more than we regularly get incidentally."

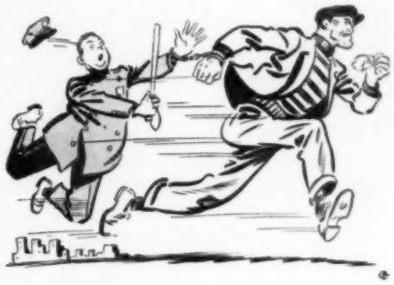
Available information now shows merely that aluminum is present in small amounts in foods. It is similarly present in small amounts in food that has been cooked in utensils made of aluminum. It is not harmful in the human body, and it does not have any important value in nutrition. Aluminum is not absorbed by the body when the food furnishes it in larger amounts than needed; it is simply eliminated.

While there was no unfavorable effect shown from alum added to maraschino cherries or pickles, in the amounts commonly used formerly, present canning practice does not include the use of alum because it is not necessary. In home canning it is a simple matter to produce crisp, tender pickles, but the home procedure does not usually involve the time, care and accuracy of the commercial process. Pickles can be bought so cheaply that they are seldom made in the home. When you interview a woman who does make crisp pickles, you will find that she takes much more time than the average for pickle making. She allows the washed cucumbers, submerged under a heavy brine, to stand in a cool place until they are "cured" completely. The "curing" requires from three to five weeks according to size of cucumbers. To test the cucumber, slice it, and see that the color is absolutely uniform, and when this is true, the pickles may be removed from the brine, rinsed, and submerged in strong vinegar. The final step in making crisp pickles without alum is to add sugar to the vinegar gradually over a period of at least a month, a little

FAMOUS WORDS OF ADVICE—

1. "Familiarity breeds contempt!"

2. "Nothing ventured, nothing gained!"



3. "Possession is nine tenths of the law!"

4. "DRINK POSTUM, INSTEAD!"

IF YOUR DOCTOR should say to you, "Stay away from Coffee!" there are three little words that can have a big meaning in your life:

1. Drink; **2.** Postum; **3.** Instead!

In fact, those words are so full of meaning that many a doctor adds them to his no-coffee advice, knowing that they may well aid you in following it.

For Postum is a fragrant, delicious mealtime drink in its own right. *So* good that literally millions of families drink it regularly, out of preference.

There's not a trace of caffein—or any other stimulant—in Postum, of course. For it is made only from sun-ripened wheat and wheat bran, roasted and slightly sweetened.

Costs little—Easy to make!

Costs *less* than ½¢ a cup. Comes in two forms: Postum Cereal, brewed like coffee; Instant Postum, made instantly in the cup. A product of General Foods.

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ASK YOUR DOCTOR ABOUT POSTUM

every few days, until sufficiently sweetened. Thus you avoid using alum or added coloring.

The fear of so-called "alum" baking powder (sodium aluminum sulfate, so-called S.A.S. baking powder), was proved unfounded. A type of baking powder known as a "combination" or "double action type" is now used every day in homes. Since the amount of available carbon dioxide gas is established by Federal food legislation, there is less difference in the potential leavening power of baking powders than formerly. The essential difference between baking powders is in the proportion of leavening action obtained in the cold dough, in relation to the amount obtained after the dough is heated. That some of the fears connected with baking powder were formerly well founded, may be assumed, but today such foods are under close federal supervision. Baking powders give uniform results because they contain the measured acid needed to react with the soda, whereas formerly the acid was supplied by sour milk and a woman could seldom guess correctly as to the degree of "sourness" or acidity of the milk and the amount of baking soda required.

For many years it has been a common belief that cheese is hard to digest. This was due to the fact that it was regarded as a condiment and served with other food merely to add zest to the meal. To serve cheese with pie at the end of a heavy meal that included meat, obviously would be superfluous. Cheese can be used to replace meat for luncheon or supper, or in a tasty cheese fondue or soufflé for dinner. Cheese furnishes somewhat different values from meat, yet similar. It is a little higher in calcium than meat, it is a "complete" protein, in that it furnishes all of the necessary amino acids which are components of proteins, but it is not identical with meat and should not be used to replace meat all of the time.

Cheese is not really "hard to digest" for normal persons, but it should never be added, as a superfluous item, to an already complete meal. Cheese should be served with bread, toast or crackers, or other cereal food, and with fruit or vegetables, as is the common practice.

Some faddists recommend large quantities of lettuce and other raw green vegetables, and recommend the omission of such concentrated foods as cheese. This is incorrect. It should be remembered that the human digestive system is not identical with that of the cow; concentrated foods have their rightful place in the human dietary. Cheese is rich in protein and in fat. It is valued particularly for calcium and for vitamin A. Cheese made in America today is more readily digestible than it was when the idea of indigestibility originated.

"Bacon for invalids and babies" is another idea which has changed. Only recently, a physician would mention crisp, broiled bacon for the light diet and for baby. Now, according to newest knowledge, bacon has no greater value than any one of several kinds of broiled meats. The preference for baby now is a "baby soup" made of liver and served with dry toast for him to chew. The light diet for adults may include fresh chopped lean beef, broiled. Bacon is now considered suitable in any diet which allows fried or broiled pork. This is a somewhat different status than bacon held formerly.

"Grape juice for sick people" is traditional. There is nothing fallacious about the idea, but several other fruit juices are fully as suitable from every standpoint, such as the juice of the grapefruit, pineapple, orange, apple, loganberry and tomato.

The saying that "strawberries cause hives" is not wholly accurate. Some people do experience a skin rash when they eat strawberries. This is an allergic manifestation. Many people do not experience a skin rash from one certain food but they do have a recurrent headache, or other reaction. The foods which most frequently produce allergenic manifestations are wheat, milk and eggs. Others, named in order of frequency are: pork, fish, onions (particularly raw onions), cabbage (especially cooked cabbage), radishes, cucumbers, chocolate, cheese, and less frequently lobsters.

It is now possible for a physician to make a careful history of food habits, to make skin tests and plan elimination diet tests to discover allergenic foods. The realization that food allergy may affect any tissue of the body is becoming more appreciated. It is a common cause of nasal and sinusal allergy, and among other things, recurrent headaches, constipation and eczema. The newer knowledge of allergies solves many food problems which formerly were explained by highly imaginative statements.

Agassiz said fish is a brain food because he found the flesh of fish rich in phosphorus as is also the brain. Different parts of the body have different chemical composition, and different mineral requirements. The food should furnish all that is needed.

Phosphorus is needed by all parts of the body, and it is found in nearly all foods. Average fish furnish .176 per cent phosphorus, as compared with milk furnishing .093 per cent; eggs .224 per cent; lean beef .204 per cent; almonds .451 per cent; dry beans .463 per cent and a long list of other foods that furnish phosphorus. Phosphorus is so important in human nutrition that it may be a limiting or determining factor. Both phosphorus and calcium determine the rate of growth of the young. The bones and teeth which contain over 99 per cent of the calcium of the body, are estimated to contain about 70 per cent of its phosphorus. A child needs approximately one and one-half times as much phosphorus as is needed by a full-grown man for maintenance. Every part of the body contains phosphorus as well as the brain. The bones and teeth suffer most in an adult, and a child fails to grow properly when phosphorus is not supplied in sufficient quantity, but ordinarily the brain does not suffer from lack of phosphorus. Mental power is largely determined by heredity and training, although it is affected slightly by the general state of bodily nutrition.

Mark Twain once gave a humerous twist to the obvious fallacy of eating fish to produce brain power. A young author wrote, asking his advice about eating fish regularly to help him in this respect. Mark Twain replied that, judging from the ability displayed in the manuscript which he enclosed, the young author should eat a "middling to large-sized whale." Perhaps such a recommendation should be made to those who draw on the imagination rather than on a body of factual scientific information when they write fantastic fallacies for popular reading.

Next month: Misunderstandings about food as they affect national economy and the economy of food in the home.

Meat . . .

and the Dietary of Elderly Persons

Grow old along with me!
The best is yet to be,
The last of life, for which
the first was made . . .

Browning's cherished lines immortalize the sunset of life, when each day should add to the rich store of experiences and beautiful memories. But so often the charm of declining years is marred by self-imposed hardships.

There are more prejudices, food taboos and "old wives' tales" regarding the diet for our advancing years than for any other age of man. Frequently they have influenced aging folks to restrict their diets unduly, thus depriving themselves not only of needed food essentials but also of much of the joy of eating.

Today medical science knows that most of these prejudices are not only uncalled for, but under certain conditions prove actually harmful. Restricting the consumption of meat and other protein-rich foods by elderly persons is definitely erroneous. A nutritionally adequate diet is essential in old age, and an ample amount of proteins is a necessary component of such a diet.

Elderly persons need just as much protein per pound of body weight as other, younger adults. They too must eat a sufficient amount of protein-rich foods to prevent the wasting of body tissues.

Meat is one of the richest sources of high quality proteins, is readily and easily digested, and promptly utilized by the body. Meat also provides appreciable amounts of vitamin B_1 (thiamine), vitamin G or B_2 (riboflavin), nicotinic acid (a vitamin needed for the prevention of pellagra), and the important minerals iron, copper, and phosphorus. Because of the many nutritional essentials it contains, meat fills a real need in the diet of the aged.

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The Seal of Acceptance denotes that the statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute

CHICAGO

Accept These 12 CHRISTMAS CARDS

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So sure are we that you and your family will like Frank's Jumbo Brand Peanut Butter that if your grocer doesn't carry it, send his name and address, as well as your name and address, and just 10c and we will send you a new assortment of 12 beautiful Christmas Greeting Cards and envelopes in plenty of time for mailing to your friends.

COMMENDED PARENTS MAGAZINE CONSUMER SERVICE

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Or send us 1 label from a jar of Frank's Jumbo Brand Peanut Butter and 10c and we'll send you these 12 beautiful Greeting Cards and "Recipes of 12 Famous Cooks." Only one assortment to a family. This offer is limited. Hurry. Address:

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For the Overweight
OBESITY—Campaign Against Corpulence, Food After Forty, Waist-Lines and Life-Lines, Some Obesity "Cures" and Treatments. 48 pages.. 15 cents

For the Underweight
HOW TO GAIN WEIGHT
8 pages . . 10 cents
Advice by LAURA A. MILLER on two workable ways of putting on pounds.

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Foley STRAINER

Quickly Strains CARROTS SPINACH TOMATOES APPLE SAUCE APRICOTS GREEN BEANS SOUPS PEAS BEETS PRUNES BEEF LIVER

Start your baby with the full flavor and food value of properly cooked fresh vegetables and fruits. Strain them quicker, easier and cheaper, too, with the Foley Strainer or Foley Food Mill. Just a few turns separates fibers and strains food fine enough for the smallest baby. Thousands of doctors approve the Foley Strainer at the American Medical Association Convention each year.

How to Cook Baby's Food

Proper methods to preserve vitamins and minerals are given in our booklet sent with each Foley Strainer—or free upon request.

$1 at department and hardware stores—or order direct.

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United States Meat Inspection

(*Continued from page 985*)

establishments where federal inspection was maintained. In the same period the average number of carcasses condemned and destroyed annually was 230,741, and many hundred thousand parts of carcasses were likewise eliminated. Also, several thousand animals were annually found to be unfit for food purposes when submitted to veterinary examination in the pens of the establishments, and these were destroyed by official action." The removal of such a quantity of more or less objectionable material from food channels constitutes a tremendous achievement in public health.

Unfortunately, all the meats and meat foods produced in this country do not receive adequate inspection. The Meat Act of 1906 applies only to meat and meat foods destined for interstate or foreign commerce. Therefore, it has no jurisdiction over meat and meat foods sold and consumed in the states in which they are produced.

Only about 70 per cent of the meat and meat foods produced in the country receive United States Government inspection. The remaining 30 per cent, having originated in establishments the products of which do not go into interstate or foreign commerce, is not inspected by the United States Government. In some states and municipalities the meats produced and consumed are inspected under local laws, but meats produced in localities where no such laws exist do not receive inspection. Some means should be devised to provide inspection for them.

At present, in order to make certain that he gets sound and wholesome meat and meat foods, the consumer should make certain that what he buys bears the inspection stamp or label of the United States Department of Agriculture.

The Bureau of Animal Industry has developed and is engaged in other activities which help safeguard the nation's meat. It conducts research in its laboratories to develop effective methods for preparing sound meat foods and to keep them as sound as modern science can make them.

Perhaps the best illustration of this work is the methods evolved by the Bureau of Animal Industry and incorporated in the requirements for the preparation of meat foods containing pork in order to destroy trichinae. In the preparation of such foods which may be eaten without cooking the present inspection regulations of the Bureau require pork to be subjected to a refrigeration, cooking, or pickling process. The regulations specifically prescribe the lowest temperature for cooking and the highest for refrigeration to which pork of given sizes must be subjected, as well as the length of exposure. In place of cooking or chilling, pork may be pickled or cured with solutions of salts of certain concentration for certain periods of time. These methods have been found by elaborate and carefully controlled tests to positively destroy trichinae.

The Bureau is at present engaged in a study of means and methods for the control of the feed for swine on the farms and ranches designed to destroy trichinae, thereby materially reducing the incidence of infection of the animals with the parasites. No doubt some of these methods will be adopted generally, thereby reducing the possibility of human trichinosis still further.

Finally the Bureau conducts an educational campaign by means of radio, the press, lectures and bulletins for the purpose of informing the consumer on the best methods of avoiding trichinosis. Thorough cooking of fresh pork is urged.

One of the earliest and most extensive undertakings of the Bureau of Animal Industry in the direction of prevention of animal and human disease was started over a quarter of a century ago in the eradication of tuberculosis in cattle by means of the tuberculin test in cooperation with state authorities.

As is usually the case in undertakings of this character, it met

with opposition on the part of the owners of the animals, conscientious objectors and others; but all opposition was finally overcome and the enormous task of testing all herds of cattle in the United States was completed in 1939. This work was greatly facilitated by inspection at slaughter because, when tuberculosis was found, the place of origin of the cattle was traced and the owner advised to test the remainder of his herds and institute preventive measures. At present retesting in the field has been started in order to promptly detect reappearance of the disease.

That this work carried on for so many years at great expense and with a prodigious amount of work has been successful and paid many times over in promoting public health is proved by the fact that there has been a reduction of 96 per cent in the condemnation of cattle for tuberculosis on inspection. This astounding reduction means a corresponding reduction of tubercle bacilli in the milk supply of the country and a consequent reduction, no doubt, in the percentage of glandular, bone and abdominal tuberculosis in children, acquired usually through raw milk. This campaign must have contributed also to the marked reduction of adult tuberculosis in this country in the past quarter of a century, even though the bovine origin of the disease in adults is known to be extremely rare.

The Bureau is carrying on still another program of eradication of animal disease that is communicable to man largely through raw milk: Bang's disease, or contagious abortion of cattle and hogs. This work, like the eradication of animal tuberculosis, begins with the testing of cattle in the field and ends by postmortem inspection of reactors in the slaughter house.

When in 1918 Alice Evans, working in the laboratories of the Bureau of Animal Industry, demonstrated the biologic and other similarities of Bang's bacillus of contagious abortion and the brucella melitensis of Malta fever of goats she laid the foundation for the investigation of the cause of undulant or Malta fever in man, which soon proved that the disease is caused by the organisms that cause brucellosis in cattle, swine and goats. The only certain mode of eradication of human

Names *Can* Sometimes Hurt Me

You've often heard the quotation, "What's in a name?" But we know you'll agree that sometimes a name can be very, very important.

"Nicotinic Acid" is such a name. Here is a beneficial substance—one of the life-giving vitamins—a vitamin of the vitamin B complex needed to prevent pellagra—a vitamin required in your diet every day.

And yet, to the average person "Nicotinic Acid" immediately suggests the well-known nicotine of tobacco—to which it bears no relation at all.

No more relation than the dangerous gas, chlorine, bears to sodium chloride, or ordinary table salt.

Nicotinic Acid is one of the valuable nutrients added to Enriched Bread, along with thiamine (vitamin B_1), riboflavin (vitamin B_2), and iron—nutrients that put Enriched Bread in the preferred class of foods.

Scientists may eventually agree to change the unfortunate name of this beneficial vitamin. Until such time, we ask your aid in pointing out to those who look to you for guidance the dietary merits of Nicotinic Acid, and of the Enriched Bread containing this essential vitamin.

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American Institute of Baking

DEPARTMENT OF NUTRITION

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For EVERY MILK PURPOSE
● Particularly for infant feeding, Van Camp's Evaporated Milk is widely recommended by physicians because it is uniform in composition and readily digestible. Used in cooking, it adds a rich, creamy flavor to many dishes. Contains double the amounts of fat, protein, minerals and milk sugar in cow's milk. Sterilized and homogenized.
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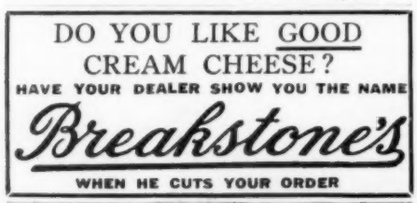

DURKEE'S DOUBLE FLAVOR VEGETABLE MARGARINE
● Made by a new process that whips the goodness of the pure, pasteurized fat-free milk and wholesome vegetable oils right into the product.
Durkee's
OLEOMARGARINE
FOR COOKING BAKING, FRYING SPREAD FOR BREAD
DURKEE FAMOUS FOODS, Chicago, Ill., Norwalk, O.

THIS TOMATO JUICE IS NEVER THIN OR WATERY
High retention of nutritional values because made by patented process. The Sun-Rayed Co., Frankfort, Indiana.
KEMP'S SUN-RAYED

undulant fever is to stamp out the corresponding or parent malady in the animals.

In 1934 the federal Government in cooperation with various states inaugurated a plan to eradicate Bang's disease by testing cattle with the agglutination method and eliminating the reactors. Logically, this work was placed in the hands of the Bureau of Animal Industry.

In a recent summary, Dr. John R. Mohler, chief of the Bureau, states: "The results have been gratifying and thousands of herds have been freed of infection. The incidence of infection in every state cooperating has been reduced. Since July 1, 1939, all antigen used in this program has been produced by the Bureau, and this factor has resulted in a greater uniformity in the interpretation of the test."

This work will in time render the milk supply of the whole country free, or nearly so, of the organisms of human undulant fever. If this work were paralleled with universal pasteurization of milk, this disease would soon be a thing of the past.

In connection with the work of eradication of Bang's disease the Bureau has developed a method of immunization of considerable scientific interest which may prove to be of material aid in the eradication campaign.

For many years attempts have been made in the experimental laboratories of the Bureau to immunize cattle with avirulent or attenuated causative organisms. The results have always been more or less indifferent but finally attempts made with organisms of what is known as strain 19 of reduced virulence seem to be promising. The Bureau has named this method Calfhood Vaccination because it is to be used in calves four to six months of age. It is still in the developmental stage and much work needs to be done to overcome technical and economic difficulties.

Conservation of Vision

(*Continued from page 976*)

falls back on it even at the cost of sacrificing educational opportunities. The boy who will not study is sometimes nearer right than are parents or school authorities who will not have his eyes examined to see if glasses are needed.

Of refractive errors, the most difficult one to contend with is myopia. In this condition there is usually a heredity factor as the basis. Myopic eyes do not have certain elements which a normal eye possesses and the result is that there is a stretching of the eyeball. This stretching process is most noticeable in young eyes and continues decreasingly in amount until maturity is reached. Some investigators state that a deficiency of calcium accounts for it but whatever may be the cause it is a condition which is difficult to cope with. Our efforts have been of some avail. Experience shows us that in these children close work must be held to a minimum. The general health must be maintained at a high level. Fatigue, glare, excessive use of the eyes and other factors must be considered in addition to properly fitted glasses. Myopia is particularly important during the school years because this is the time that it usually develops and increases most rapidly. It would be much better for children's eyes if school life began at the age of 7 or even at 8 years, and for children in poor health, especially if showing signs of myopia, the 10th or 12th year is far preferable. The child with myopia is more likely to become a bookworm. Without the needed glasses, he is handicapped for such games as baseball and tennis and he turns to near things for recreation, using his eyes continuously for near seeing whether at work or play. Myopia does not cause headaches, although sometimes when the condition is increasing rapidly the eyes are painful. If the myopia is the progressive type it reaches a high degree during school life, and may continue to progress throughout life. In this type of myopia the various resulting changes of the eye, such as atrophy of the choroid coat, cataract, or detachment of the retina, may bring blindness in later life. Even a low degree of myopia

is very important at the school age because of its strong tendency to increase.

Contrasted with the myopic eye is the hyperopic eye. The youngsters having hyperopia usually read normally when tested but may have symptoms of eye strain such as nervousness, early fatigue, headache, red eyes and many times are considered backward pupils. These youngsters become discouraged with school work and many times their personalities become warped. A common error concerning the eyes is that if the child can see clearly his eyes are all right and are fit for school work without glasses. Hyperopia, even of high degree, usually allows clear vision at near and distant points, but to do this the eyes must make an extra effort.

Contrary to the belief of many, glasses are not always prescribed when the child is examined by an oculist. Many times the symptoms which suggest eye strain may be due to some other condition of the body, but an eye examination definitely eliminates the possibilities of defective eyes. The question of how frequently the eyes should be examined is asked many times. Eventually it will be the custom to have the child's eyes checked yearly as teeth are checked. It will be recognized more fully that it is far more essential to develop the eyes than the teeth, but usually emphasis is placed on the teeth, rather than the eyes.

Some persons do not approve of glasses for children. If the child needs glasses, the fact that one dislikes to see them on his child does not make the wearing of them any less a necessity, or any easier for the defective eyes to do schoolwork without the glasses. It may be unpleasant to wear number 9 shoes, but if that is the size of the feet, dislike for them will not make a number 6 shoe any more suitable. If a child has headaches, he will continue to have them even though the mother refuses to pay attention to them.

Many overlook the fact that headaches established in school days may become chronic. The boy using his nearsighted eyes for school work, without the glasses he needs, may be laying the foundation for blindness in later life. Even if bad results do not follow, it is certain the school efficiency of the child who needs glasses is lessened and his capacity for work in later years can never be as good without them. For parents to object to examinations of the eyes of a school child because they are afraid he may need glasses is to follow the example of the ostrich. To choose ignorance is never good defense against a danger. Another point which should be stressed is the importance of keeping the glasses adjusted, clean and free from scratches. Many prefectly fitted glasses are incorrect because they do not fit before the eyes in a correct position.

What sort of examination should be made of a child's eyes? The most complete examination is indicated because it will show more completely the exact nature of the disease or defect that prevents good vision. Fitting glasses is but one portion of the oculist's work. The oculist examines the eyes not only from the refractive standpoint but also from the medical aspect. He looks on them as part of the body. In a large percentage of patients, he finds that the problem is not glasses but that the eye difficulty is

(Continued on page 1005)

HOW TO FEEL "FIT AS A FIDDLE"!
Begin every day right—with a bowlful of crisp, delicious Post's 40% Bran Flakes—the cereal with 2 extra benefits!
YES SIR, IF YOU HAVEN'T TASTED POST'S 40% BRAN FLAKES' SWELL NUT-LIKE FLAVOR . . . YOU'RE MISSING SOMETHING EVERY MORNING!
Post's 40% Bran Flakes
With Other Parts of Wheat
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QUESTIONS AND *Answers*

Cancer

To the Editor:—If one case of cancer has been found and we believe it was caused by injury, will we have to be on the lookout for falls and bruises to cause more in the family?

F. C., Nebraska.

Answer.—Cancer is often attributed to injuries, but the fact is that cancer seldom occurs as a result of a single injury except in bony tissues and cartilages of the body. Every one in the ordinary course of life receives so many falls, bruises, blows and other injuries that it is too easy to conclude that a relationship exists between such an injury and a subsequent cancer. The probabilities are that the cancer may have developed even before the blow was received or would have developed even if no blow had occurred. The kind of injury that contributes to the production of cancer is the repeated small injury in the same place, such as the constant wearing of a misplaced or jagged tooth on the cheek or tongue, the constant irritation of a hot pipe or from a plug of tobacco against the lining of the cheek; or in the case of women, especially, unrepaired birth injuries. You will undoubtedly give yourself much needless anxiety if, as you suggest, you become excessively conscious of possible injuries from falling and bruises.

Mental Defectiveness in Children

To the Editor:—My son was 6 years and 2 months in June. He did not seem advanced enough to enter the first grade of school and was given a psychologic examination by a bureau of the Board of Education. He was described as almost feeble minded with an I. Q. of 71 and it was recommended that he stay in kindergarten another term.

This was a terrible surprise to us as we always thought him intelligent. He was always a model child in behavior, learned to feed himself perfectly and used unusually good English at about the same time other children do those things poorly.

In attempting to find the cause of his backwardness, we then took him to the clinic of a well-known hospital where he was given physical tests that revealed nothing wrong. The school gave the psychologic examination on June 11th. On June 16th we took him to a foot specialist as we understood the child had flat feet. The doctor found the child lacking knee jerk and said he should be given a neurologic examination. This was also given at the clinic and last a psychologic examination. The results of that examination given on July 21st we were told showed an I. Q. of 54.5 and that nothing could be done for the child and that the child should be put in an institution. When I mentioned the I. Q. of 71 a month previous, I was told "it was all the same."

The report of the clinic was given our family physician who on my asking the significance of lack of knee jerk and if other reflexes were lacking said, "They didn't mention a single thing about them." He also said the report claimed the trouble with the child's feet was not flat feet but ataxia.

What I should like to know is:

(1) In determining a backward child's intelligence are neurologic examinations used as well as psychologic?

(2) If not, just what do neurologic examinations reveal?

(3) By the results of a neurologic examination, would a child with an I. Q. of 71 (poor as it is) be classed as showing "marked mental defectiveness"?

(4) Could a child with ataxia stand upright with eyes closed, control muscles well enough to feed himself properly without spilling things, and be able to lace shoes with eyelets without the slightest trouble?

E. S., New York.

Answer.—A mental test which does not take into consideration the physical (including neurologic), social and emotional background of the child is practically valueless. These attributes are not units which can be isolated as separate components. Rather, they are attributes which in the aggregate constitute the person as a human being.

Physicians and educators today rely less than they formerly did on the numerical results of the I. Q. tests. Too many persons and environmental elements are involved in these tests to accept them as infallible.

In the problem here presented, it is difficult to believe that a child with perfect behavior and good language development is without normal mental equipment. As to ataxia, there are various grades of this condition, and it may or may not be associated with a low intelligence quotient. If there is disagreement on the diagnosis the ataxia must be mild. In fact, if the description of this child is correct, one would be justified in taking all these reports with a grain of salt.

Abilities in children vary so much with physical, social and emotional states that it seems best to accept a child at his own value rather than worry over figures exhibited as a result of one, or even several, mental tests. It would seem advisable in this case for the parents to give the school freedom in allowing the boy to remain in kindergarten, or to advance with his class, as the authorities see fit. An I. Q. of 71 based on one single test does not necessarily present a picture of hopelessness. It is possible that subsequent retests may yield a much higher rating.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

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Man's Debt to Medicine

(Continued from page 963)

half a century ago who counted not the costs when there was question of saving the life of mother or father or child but plunged into the fastnesses of untrodden forests alone at night to bring comfort and solace to the failing pioneer. I am thinking of the physician and specialist of today, maligned and misunderstood though he be, who answers the call that summons him from the privacy of his comforts to assist the pauper or the prince of wealth alike in a moment of need.

He does this because he has felt in his practice the enthusiasm that grows from the contact of man with man; because he has tasted the stimulation of human relations in that confidence that has been reposed in him by an appreciative patient. He does it because he knows that he can do for others what they cannot do for themselves. He does it because he sees the opportunity to give to others in a few moments what it has taken him years to elaborate in his knowledge and his skill. He does it because he is the strength to the sick, the solace of the afflicted, the encourager of the dejected, the friend of the forlorn, the consoler of the afflicted. He does it because he sees a human being in need, and it is his life work to relieve that need.

And again, what a contrast with the world today, when the infliction of pain and not the relief of pain, the execution of death and not the prevention of death, the creation of misery and not the destruction of misery threatens to become the preoccupation of the nations. We seek in vain words to describe the devilish barbarity, the savagery and malice that can be released from the human heart once it has smelt the warm and sickening sweetness of the odor of human blood, of that same blood which has stimulated medicine to its most enobling self sacrifices, to the achievement of its highest conquests, to the attainment of its most elevated purpose.

What does it all mean, this paradox in life, that misery and suffering and poverty and disease can raise one human being on the wings of the angel of mercy to flights of self forgetful heroism and can deprave another human being to the very depths of fiendish deviltry in the hatred of man for man. If there ever was a moment when man needed a reconciliation of the contrasts observed by his senses, that moment is now, and the man who is inspired with the inspirations of the purposes and pursuits of medicine will know that he holds in his hand the solution of the paradox. Medicine has pointed the way jointly with religion, as both have labored to save the individual human being from the world around him and, if necessary, even from himself.

If a third reason must be given why medicine has placed mankind under such a debt to itself, it is because medicine has shown the way toward an appreciation of the values of life. Those values lie not in wealth or power, not in vast territories or vast hordes of gold, not in political honors or national domination; they lie in the safety, the security, the health and the contentment of the individual person. They lie in the sanctities of family life, in the achievable ambitions of the individual man, in the invulnerability of his rights as a person and in the trustfulness and

(Continued on page 1009)

SURGERY FOR HIGH BLOOD PRESSURE

The outlook for patients with a high level of blood pressure (hypertension) and spasmodic contractions of the minute blood vessels of the eye is much more favorable following an operation in which certain nerves controlling the contraction and dilation of the blood vessels are severed than is the outlook following medical treatment, Ward Wilson Woods and Max Minor Peet, Ann Arbor, Mich., report in *The Journal of the American Medical Association.*

"The surgical treatment of patients with malignant hypertension has resulted in a survival of 33 per cent after five years," the two men say, "whereas following medical treatment . . . the mortality was more than 99 per cent."

Conservation of Vision

(Continued from page 1001)

secondary to some other physical derangement. In children, eye trouble may originate from the improper use of the eyes, or a temporary weakness may exist which is due to head congestions or some other physical upset. Even though the eye may be slightly hyperopic and have a small amount of astigmatism, the oculist knows from experience that many such eyes do not require glasses and that under proper care the irritating symptoms disappear. In certain cases he prescribes glasses as a temporary measure so that the eyes may receive the necessary relief during the important developing period. By keeping the eyes under proper supervision the glasses are many times removed when they have fulfilled their need.

The eye physician has at his command every aid that science affords, and the administration of "drops" is optional. In spite of what some persons may say, there is no other way by which certain ocular conditions can be uncovered and properly corrected. In the examination of children's eyes, atropine is used only under the direction of an eye physician and it is illegal for a non-medical eye examiner to prescribe this medicine. We so frequently hear of patients exclaiming that the prescribing of atropine is old fashioned, unnecessary and dangerous. Such statements are false, and any reputable oculist can substantiate this point. No authentic case is recorded where permanent damage was done as a result of the use of atropine in refracting children's eyes. No matter how young the child is, accurate measurements of the refractive error can be made and relied on when atropine is used. In examining the eyes of children, relaxation of the eye is most essential.

Not only do drugs which relax the eye muscles enable the physician to measure the true refractive

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defect, but they allow him to view the interior of the eye thoroughly. It is just as impossible to obtain an accurate view of the interior of the eye through a small pupil as it is to see the complete contents of a room looking through a keyhole. Our best authorities maintain that an accurate examination through the normal pupil is impossible because the light causes the pupil to contract making a complete view of the interior impossible. This thorough check of the interior of the eye is vital in order to eliminate the presence of intraocular disease. The oculist is looking at what might be called a sample spot in the human body, which often reveals what is happening in other parts of the body. Organic weaknesses that effect the heart, kidney, liver and other vital organs often leave certain tell-tale signs in the back of the eye, or the blood vessels which supply it.

Another conservation opportunity deserves special mention; namely, children with strabismus or cross-eye. They constitute the largest single group in which there exists serious impairment of the vision in one eye. It is necessary to emphasize three well established facts: that treatment should be started the moment the strabismus is recognized, even though the child is less than 1 year of age; that in a high percentage of children, crossed eyes can be straightened by means of proper and complete correction of refractive errors and with orthoptic training; and, most important, that the neglected crosseyed child loses vision in the deviating eye unless measures are taken to correct the defect during the preschool age. Vision once lost is rarely regained after the age of six. One is repeatedly impressed with the fact that physicians, whose advice is first sought by parents of children with crossed eyes, do not properly appreciate the fact that this loss of vision occurs in the deviating eye and is avoidable. Amblyopia—loss of vision in the deviating eye—results from involuntary suppression or inhibition of vision to prevent diplopia. If treatment can be started at an early age, this amblyopia can usually be prevented, or vision can be reclaimed by proper treatment.

It is remarkable how many parents bring their children for examination because of strabismus only when they attain school age, or for esthetic reasons. In some manner they too frequently gain the impression that treatment is unnecessary and without prospect of benefit until the child is ready for school. When informed that the deviating eye has defective vision, they express great surprise and not infrequently resentment against earlier advice they have obtained.

In strabismus, preventative measures are of greatest value. It is a fallacy to believe that crosseyedness is outgrown. During the early years prompt attention should be given and careful supervision carried out because the turned eye does not develop normal vision. Later on when the child reaches school age fusion exercises can be given to create the desire in the brain for the eyes to work together. Operations should be performed in most cases after the strabismus has become established, because treatment and glasses alone are not usually sufficient. If the child is treated at an early age, the necessity for surgical intervention is lessened.

Although the turned eye may be straightened by surgical intervention, the vision in this eye is poor and the child continues to use only one eye in seeing. This partial blindness is far more serious than commonly believed. With the pursuit of various forms of strenuous athletic sports during boyhood, youth and young manhood, the possibility of injury to the useful eye is a real hazard. The danger may be less during active adult life, unless the person engages in some industrial pursuit, but it is ever present.

Another important consideration in conservation of vision is ocular accident. It is rare for an eye to be injured as the result of a broken spectacle, providing the frame is in good condition. There are, for more obstreperous or active children, shatterproof glasses which eliminate much of the danger. Every oculist can enumerate case after case of avoidable accidents to the eye. In most instances it is traced to a toy or an explosive. The air rifle should be thoroughly eradicated. Fireworks also should be prohibited because more eye accidents occur on or about the Fourth of July than occur during a one-hundred day period at any other time of the year. Even the most trivial accidents may bring serious eye trouble if infection develops and in certain types of injuries the other eye may become seriously involved. Parents should give consideration to these possibilities when they select their children's toys.

Prevention of visual impairment is not exclusively a problem confined to the ophthalmologist. It affects every branch of medicine. There is lately a growing appreciation for the value of sight and an increasing realization that our eyes are not isolated organs, but are subject to many changes secondary to general health and disease. The eyes are neglected and abused more than any other organ in the body and are often permitted to go without treatment or help of any kind. Most of us take our children's eyesight for granted and never think of it as the greatest of our personal treasures which should be guarded constantly. Like their minds and bodies, the eyes of a child are in the process of developing and their health must be safeguarded. We cannot expect immature eyes to perform the work of mature eyes, or to work under handicaps without the mechanism becoming impaired. On no other organ in the human body hangs so delicately the thread of happiness as on the eyes, yet no organ is more active or restless. From early infancy to death, through all waking hours, they function ceaselessly. Considering that 90 per cent of our vast knowledge of the eye has developed in the past fifty years, there is much to be hoped for in the prevention of blindness and the saving of sight.

HAZARDS OF SELF MEDICATION

Apparently the first death due to sulfathiazole overdosage, illustrating the hazards of self medication and the ignoring of a physician's orders, is reported by Archibald L. Hoyne, and Granville W. Larimore, Chicago, in *The Journal of the American Medical Association*. "Our patient," they say, "was one in whom acute agranulocytic angina [absence of the granular white blood cells] with a fatal termination followed the taking of sulfathiazole over a comparatively long period of time."

Our Selectees are Healthier

(Continued from page 956)

14.33 years and that in white women 15.33 years. White female children born today may expect to live 66.4 years and white male children 62.6 years. This is a perfectly remarkable achievement. In 1900 the average length of life for white females was 51.08 years and that for white males only 48.23 years.

In the last decade—a depression decade—the average duration of life was increased 3.76 years for white males and slightly more than four years for white females. The gains for the decade immediately following the first World War were even greater and the increase was 4.79 for white females and just short of six years for white females.

The last four decades have witnessed marked improvement in the health of our people in many ways. Infant and maternal mortality have been greatly reduced. The death rate from tuberculosis has sharply declined, as has that for pneumonia, and the diseases of childhood. Typhoid fever and diphtheria have become almost nonexistent. There have been marked improvements in surgical technic and a widespread increase in hospital facilities. Such diseases as diabetes and the primary anemias have been brought under control. In the South malaria and hookworm are no longer major problems.

The sturdy state of health of men being inducted into the army now is reflected in the much lower morbidity (sickness) rate in the camps now than was the case in 1917. The total rate of admission to "sick report" has run considerably lower during the period April to August 1941 than for the corresponding period in 1918.

There has been a much lower incidence of such diseases as measles, mumps, epidemic meningitis and upper respiratory infections than there was in 1917-18. (These diseases are often epidemic when large numbers of recruits are gathered together in camps, and especially is this true in troops

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from country districts living in barracks.) The incidence of measles in November 1917 was 240 per 1,000 (on an annual basis) and the death rate was more than 5 per 1,000. The maximum rate during the present emergency was 57 per 1,000 in March 1941 and it has now fallen to one per 1,000. In 1917 measles caused many deaths while the mortality from it now is negligible. However, part of the present decrease may be due to the annual variation in both the morbidity and mortality rate of this disease.

The record with regard to mumps and epidemic meningitis now as compared with 1917 is just as impressive as that regarding measles.

Not only has the general incidence of diseases (morbidity) been less in army inductees during the present emergency, but the total death rate from all causes has been less than one tenth of the figure in 1917-18. During the period from November 1940 to May 1941 the total death rate was less than one per 1,000 per annum, while during the corresponding period in 1917-18 the death rate was 10 per 1,000 per annum.

Many more figures might be quoted showing that the general trend of health has been upward. The Metropolitan Life Insurance Company has interesting figures showing that the health of America's wage earners is at a high level. The death rate among their many millions of policy holders during the first eight months of this year was the lowest on record.

The situation may be summarized by saying that the mortality rate for our population as a whole is now the lowest on record, and the average length of life has reached an all-time peak.

It may readily be seen, therefore, that in spite of the large number of rejections for the military service, the health of the nation has become constantly better during the last four decades and we have every reason to believe that it is still improving. This does not mean that we should sit idly by and be content with what we have. The medical profession of America is constantly striving to improve medical conditions in every way—scientifically, technically and socially. It is generally conceded that American medicine has reached a high plane hardly attained by that of any other country in the world. This has been due to a gradual process of self improvement and evolution. There is every reason to believe that it will continue. There have been revolutionary changes also, but they have been due to revolutionary discoveries. Our research workers are constantly looking for more.

In Maryland, not only are our two medical schools and the research departments connected with them constantly striving to find new methods, procedures and technics for the improvement of medical practice, but our state medical society (The Medical and Chirurgical Faculty of the State of Maryland) has among its standing committees an important one entitled "The Committee on Medical Care," headed by Dr. Maurice Pincoffs, which is constantly active throughout the entire state, endeavoring to improve the means of getting new medical methods and new discoveries to the public and of making them available to all Maryland citizens.

I have been asked many times what facilities are available for the remedy of defects found during the physical examination of registrants. Investigation shows that approximately one third of all hospital beds in Maryland are free beds. These beds are available for indigent registrants who need hospitalization for corrective operations, such as those for hernia and other remediable conditions.

However, a comparatively small percentage of registrants in whom defects are found show any willingness or desire to have them corrected. No matter what facilities may be available for the correction of defects, they are valueless unless the people in whom the defects exist want to have them corrected. That is a matter of education. While public health efforts may be more or less effective in educating the public to a point where they are health conscious, such methods are not the most effective, nor do they get to the people who most need corrective measures. The place for this education is in our schools, and should start in the early grades and continue through enough grades to really make an impression. It is true that our schools have courses in hygiene and physiology, but every one knows that such courses do not, as a rule, make much impression on the students.

A more intensive and better directed effort might be productive of far reaching results. There is not as close collaboration between public health and education authorities generally as might be desirable in this important matter.

There has been a good deal of talk about the need for public health surveys, especially as a result of Selective Service rejections. One of the best public health surveys that could possibly be asked for is that being conducted now by the examination of registrants by local board doctors and medical advisory boards. These examinations give the doctors in each community a thorough knowledge of just what the health conditions are in their own communities. The doctors, almost without exception, are deeply interested in the public health aspects of Selective Service and are ready and willing to assist any registrant who needs treatment to get it by pointing out to him the facilities which are available for such treatment. The facilities are in general adequate, but in many cases the desire to take advantage of them is lacking. Under the President's new program of rehabilitation, as recently announced, defective registrants will be given an opportunity to have their defects remedied by their own doctors at Government expense. If they fail to take advantage of this opportunity, they will be inducted into the army, after which army remedial measures will be applied.

An interesting example of the effect of the survey made by Selective Service physical examinations is afforded by the action of the Department of Education of Baltimore City. In an attempt to make the next generation more fit, this board has added 26 new members to its department of physical education for the school year 1941-42.

Man's Debt to Medicine

(*Continued from page 1004*)

confidence of the relations of man to man. They lie in the dignity of manhood, the purity of womanhood and the sweetness of childhood; in the joy of living, the satisfactions of human associations, the impregnability of the home, the surety of a future and the safety of human satisfactions in old age. All these medicine has striven to safeguard. Witness the social legislation that has swept through the nations during the last decade or two. In each law that deals with the safety of mankind, medicine occupies a place of commanding, at times even, of dominating responsibility. Let life become more burdensome and painful, and old age security becomes a mockery; let disease stalk through the land, and employment laws become a hollow taunt; loosen the leash of hygienic living, and maternal welfare and child welfare and programs for crippled children become a mockery. All this social uplift, as we fondly call it, whether we admit or not, owes its significance to medicine, because medicine, in the last analysis, has made life worth living and has made a longer life a better life worth living.

In all of this thought I have linked in my argument medicine and religion. The clamoring need of the nations today is for more help for body and mind; medicine supplies one, though not only one, and religion supplies the other, though not only the other, and this is possible because in their purpose, in their methodology, in their approach to the individual man, they are both as one. Both preach to us the sancity and inviolability of the human being; both hold up to us for our admiration and our veneration, not in an empty manner but in a manner that motivates our action, the dignity of man. Only on the sickbed before the calm judgment of the diagnostician and only on the deathbed at the footsteps of an eternal judgment seat before which shortly a human soul will stand is it true that all men are equal. In all other contingencies and viscissitudes of life men cannot possibly be equal, and hence medicine and religion become the sole sound bases for the true democracy that emerges from nothing else than the equality of us men as individual persons.

More than that, medicine and religion stand alone as defenders of the rights of the individual man. Politics must count votes. It must have men in crowds. Government

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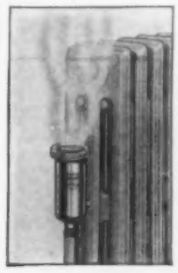

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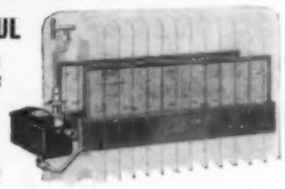

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The foundations of the beneficence of medicine have not escaped the erosions of time and of social change. There are those who clamor for change, those who clamor even for revolution and those again who clamor for nihilism in medicine. There are those who will not admit the priesthood of the physician, the wisdom of his experience, the comprehensiveness of his knowledge, the superiority of his training, the need of his long preparation. Ranging in their opposing interests from the amateur self diagnostician to the routinist who sees in medicine nothing more than a mechanical device for grinding out diagnostic and therapeutic procedures, these opponents of medicine clamor for public interest in medical activities; these demand the elimination of the preferred dignity of a profession and see in medicine a trade. On the basis of their knowledge of a few unworthy to bear the title of physician, they attack medicine as a whole and deny the validity of the supreme ideals that dominate an unselfish science and art. They would attack the organizations into which medical men have banded themselves for protection, God knows not of themselves, but of the public, of the nations and of the world, against the selfish interests of some of their own members in the profession. These are the ones who see in disease only an economic problem that can be solved by larger governmental grants and by dipping more deeply into the treasure chest of an administration. These are the ones who deny the validity of serious investigations into the mysteries and problems of nature and who would equivalate the training of the scientist and the self discipline of the physician-artist to the quackery and charlatanism of palpably false medical theory and a demonstrably false concept of human life. To be sure, this catalogue of those who are chipping away at the foundation stones of medicine is not exhausted, but it is enough to indicate the groups of those whom I mean. They fail to know that in the temple of medicine the individual human being is enshrined in his niche and that the priests of medicine pay homage and service to him. And perhaps even if they knew that such is the case, they would not care. In many instances, surely, the chiseling at the mortar that holds the stones in the foundation is done because a philosophy of values that exalts government to be the master of the people has dictated an attack on the sustaining ground-work of a civilization that is based on the dignity not of mankind alone but of each member of mankind. The threats to medicine have all too often been threats to government as we understand it, government in a democracy.

You are the ones who stand side by side and shoulder to shoulder to those who carry in their hands the destinies of man. You are the inspirers of those who save human life. Yours is the joy and privilege of sustaining them who sustain others; who share their dignity, their obligations, their achievements, just as you share their anxieties, their worries and their labors. Like the vestal virgins of Rome, you keep alive the fires of unselfishness, the fervor of devotion, the enthusiasm of ideals. Your dignity lies in safeguarding the hopes and ambitions of the physician, who in turn safeguards the sancity of the individual man.

OUTDOOR TOYS for CHRISTMAS

By RUTH PECK McLEOD

"WE ALWAYS SELECT outdoor toys in preference to those of the indoor type," remarked Mrs. Brown to another shopper in a crowded department store near holiday time. "When Bobby started having constant colds a few years ago we learned the reason from an eminent child specialist—too much indoor life, too many indoor toys. We had the foolish idea that keeping a child in the house 'protected' him from cold, whereas we learned later that it had the opposite effect. Now Bobby is out every day and seldom has a cold. We accomplished this with outdoor toys—he has his sand pile, his see saw, his swing and this Christmas we are going to surprise him with a slide. It is no trouble to persuade our son to stay out of doors for once children get the habit of playing outside, they look on indoor play as confining. All children feel invigorated playing in the fresh air. This same doctor told us that the reason children are usually so well when they spend the winter in Florida or California is because they are out of doors practically all day long. He said that he realized that all parents cannot take their families to warmer climates during the colder months but that they all can keep their children in the fresh air a good part of the time," concluded this experienced mother.

It is unfortunate that the average parent does not recognize that the best safeguard against colds, anemia and lack of appetite is not to be found on the drug store shelf but in the sunshine. One eminent physician told me that the majority of his juvenile patients were sheltered and shielded children who rode around in automobiles and stayed indoors constantly, usually taking music or dancing lessons, or going to the movies, after school. He remarked that one wealthy woman in New York City felt so sympathetic toward a certain group of newsboys, whose throats were constantly exposed during winter, and who seemed otherwise so inadequately clad, that she paid a doctor to examine them. Imagine her surprise when she learned that these

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children had fewer colds and better health than the average child who stays indoors. The reason is obvious. They were hardened to the weather and spent the greater part of the day in the fresh air.

It is also unfortunate that the toy counter today abounds with toys that call for the child to remain in the house. Take an inventory of the pale, sickly child's toys and see if in almost every case they are not of the indoor type. Among these will be found many for such sedentary pastimes as drawing, painting and similar occupations conducive to poor posture. Coloring with crayons and painting with water colors are both excellent on some occasions, but never following a day of close confinement in the classroom when "busy" seat work has kept the backs and shoulders bent over a desk most of the time.

Outdoor toys need not be expensive—the sand pile for summer and for dry days in moderate weather, the swing and the see saw for all seasons. These three are simple to construct. A variety of swings may be provided, one of which should be on the porch for days when the ground is wet. Swings with stout boards for seats and sturdy ropes fastened securely to a strong tree limb, or a heavy frame, or to rafters in the porch roof, will provide many hours of enjoyment. The hammock, homemade or otherwise, for outdoor play is always popular with children of all ages. The see saw is extremely easy to build—a strong board on a heavy block will answer the purpose. Smaller children enjoy a set of steps or huge blocks, light in weight but sturdy, that can be moved from yard to porch. They will derive much fun going up and down these stairs, or jumping up and down on the blocks.

The type of playground equipment can be adapted to the age of the child and the climatic conditions—the scooter, velocipede, wagon, tricycle, bicycle, toy automobile, roller skates, ice skates and sled are all excellent. The slide is a splendid means of keeping the child active in all kinds of weather. There are many other types of more elaborate playground equipment on the market such as the merry-go-round, the wading pool for little tots, the swimming pool for older ones, and so on, depending on the money one has to invest in them. The sum spent by the average family for indoor toys each holiday season would pay for at least one piece of substantial equipment. However, there is one precaution to take in selecting play equipment: be sure it is sufficiently sturdy to withstand the wear and tear of vigorous play. Unfortunately some pieces of playground apparatus are gaudily painted and showy, but consist of boards that will split easily, or of parts that are insecurely fastened together. Such equipment makes for accidents. If you cannot afford to buy the best, it is wise to secure strong boards and build the equipment yourself, or have a carpenter construct it properly so that you will feel certain that it is safe for active play. Homemade scooters or improvised wagons, constructed of roller skates, odd wheels and similar parts, often prove satisfactory. The annual soap box derby is evidence of this. A tent is one of the "toys" that will give much pleasure and fresh air to any group of children, and the older boys can use it for camping trips. Outdoor cooking kits also fit in with a boy's idea of a real gift.

A visit to a nursery school will reveal the type of play toys for the small child's recreation: the strongly built dumping truck in which he can haul sand or blocks, the locomotive large enough for him to ride on, the well-built wagon, and so on. As at the nursery school, fences for at least a part of the yard will be required for small children. They will provide more freedom and will also allay the mother's anxiety about the youngster's getting out into street traffic.

Children who live in apartments must have some place to play such as the "Y," a vacant lot, or a playground. One cannot expect a child to have normal health if he goes to school a greater part of the day and returns home to remain indoors, missing all of the sunshine. As the types of out of door toys to be used by "apartment dwelling" children are few in number, the list from which the shopper can select suitable ones is limited. The tennis racket will be fine for use at the "Y," or in some public or private tennis court; the croquet set may be used in the small yard often present in connection with the apartment house, while the base ball and bat, the football and the badminton sets will necessitate a

vacant lot. However, outdoor toys without a safe place to play will be a hazard to the child's safety. Every child is entitled to a safe spot where he can indulge in healthful play in the fresh air with outdoor toys.

One enterprising apartment-house family rented an adjoining lot for a nominal sum. Here, their son raised beautiful flowers at the front and a vegetable garden at the back. A set of garden tools interested the boy in this pleasurable and profitable project. He netted $5 selling vegetables during the summer season. For this Christmas the boy's father is planning to give him sufficient funds for material to make a fish pond and lily pool. The youngster is eager to raise goldfish, just as one of his friends has done.

There are a number of dual purpose toys on the market—those that can serve for both indoor and outdoor play. These, however, usually call for less activity on the part of the child but there are many occasions when they are useful. A table and chairs of suitable size for small children can be used in the house or in the yard. With these, play tea parties, painting and drawing can be carried on out under the trees on extremely hot days. Such equipment is also excellent for use on porches when the weather is warm but the ground is wet. Many toys on wheels are adaptable for use both indoors and out. Airplanes, so much in the limelight now, make excellent toys that can be used in this manner. Blackboards or drawing boards that can be set up outdoors interest the child who likes to draw or "play school."

While cameras do not call for active exercise in the yard, they do attract the child outdoors to take pictures. For the adolescent, the camera will mean many miles of walking to take snapshots of beautiful scenery, or of fellow hikers. Field glasses will be welcomed by children who enjoy excursions into the open.

One great advantage of outdoor equipment is that it makes for more comradeship—the baseball, the football, the sand pile, the slide, all attract visitors and every child needs the companionship of other children. Out of door toys make for better dispositions, better appetites, fewer tantrums, or "explosions." After all, misbehavior in most cases is due not to a bad disposition but to distress caused from physical ailments, overwrought nerves or similar conditions. Close confinement indoors is irritating to any child.

So much has been said about the wrong kind of toys, the kind which call for no activity on the part of the child and the kind which he merely watches. But there are practically no outdoor toys that do not make for active play—they all help to exercise muscles that have grown cramped from sitting in the seats of the classroom, or from pursuing sedentary occupations. They offset the eyestrain of close work at school. Outdoor toys serve the purpose of the ideal toy: they develop the child mentally and physically. Almost without exception the child enjoys an outdoor toy, for he is constantly seeking to acquire added skill in using it; he continually practices such games as football, baseball, tennis, croquet and badminton, always striving to become more expert.

Pets also represent favorite outdoor "toys." They will please the youngsters more than almost any other gift. A romp with a dog provides excellent exercise for the growing girl or boy. Rabbits, chickens, geese or ducks—any animals that call for constant care—mean hours of pleasurable pastime in the fresh air. A gentle pony or horse is fine for youngsters who live near an area where they can ride in safety. Bird houses, bird baths, or a feeding shelf presented at Christmas time will attract the child out of doors for nature study. A sun dial will also help to provide something of interest in the yard.

Along with outdoor toys for Christmas, one can also give outdoor apparel—galoshes, light weight but warm woolen sweaters and socks, lumberjacks, mackinaws or sport jackets of all kinds to be used in place of long, cumbersome coats. Helmets, toboggans, brightly colored scarfs, boots (but be sure these are amply large for the growing child), warm fleecy gloves (one pair with fingers, one without, so that both can be worn in severe weather), and leggings are appropriate gifts to accompany outdoor toys. Unless a child is dressed so that he has perfect freedom in the use of his body, he will not indulge in much active play no matter how many outdoor toys he possesses. The youngster wearing clothing that prevents exercising may be

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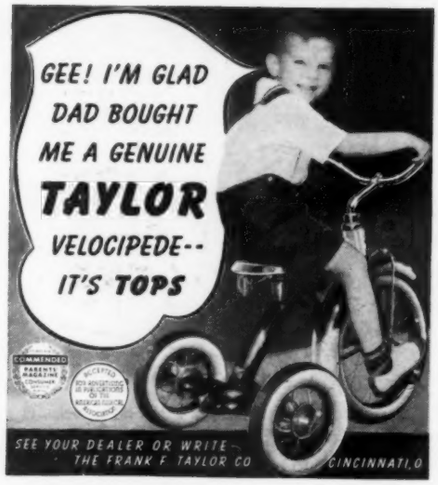

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There Is a Santa Claus

(***Continued from page 967***)

was at once confusing and disconcerting, she protested.

Certainly no righteous person will criticize Mrs. Jones for her aims to rear the child on a regimen of truthfulness and honesty. Nor can the school be justly challenged for entering into the holiday spirit of a community where every home is decorated for the season and every respectable department store features a "real" Santa Claus.

Some parents seem to invite difficulties through lack of knowledge or understanding. "You never know what's in the mind of a child," says wistful Mrs. Smith. During the Christmas season, like so many other youngsters, Barbara wrote many letters to Santa Claus ordering various gifts. She got most of the things she asked for. Christmas day she was playing in her room when her mother overheard this monologue between the child and the doll: "You little fibber, you never came through the chimney. My mother bought you in the store a long time ago, and she hid you in the basement. I saw you in the box every day—What?—Oh—Because I wanted to fool mother—she fools me all the time."

Mrs. Smith could have gathered many more filial secrets had she not intruded on the game. Psychologists now use this form of play technic to study children's ideas as an aid to understanding their behavior. The doll is an object which stimulates the child to think out loud and thus reveal his inner feelings.

These two cases represent two extreme home attitudes. As one would expect, there is a wide variation in the intellectual status of the two mothers, which also borders on the extreme. Mrs. Jones is a highly educated woman of middle age who takes herself seriously. Her studies in psychology have warped her perspective on life's realities. She insists on rearing her only child as a model in perfection, yet she wants her daughter to be a "little girl just like other little girls." The suggestion that perfection is a celestial rather than a human quality met with resistance. "A child can and should be reared in uncamouflaged honesty. And you must admit that the idea of Santa Claus is nothing but a commercial hoax, an insult to child credulity."

Mrs. Smith, however, thinks that her daughter does not understand anything: "She is only 7 years old. And—Santa Claus is such a wonderful thought." Mrs. Smith, too, believes in honesty, "But you can't always be honest with children," she defends herself.

Between these two extremes are the millions of parents who show an active or passive interest in the child's belief or skepticisms about old Saint Nicholas. Most of them do not take the matter seriously. They wisely let the child decide.

But regardless of parental disposition, the average child is, as a

rule, able to figure it out for himself. The age at which he comes to a realization of the significance of this Patron Saint varies greatly with his domestic experiences, his emotional qualities, his intellectual capacity and his social status.

There are many boys and girls of 9 and 10 years of age to whom this benefactor remains endowed with personal attributes, and no amount of teasing from their playmates can dissuade them from this belief. Most of these juvenile oddities come from devout households. They are perfectly normal in every way. One brilliant 11 year old child, when asked if he believed in Santa Claus, said: "Sure I believe in him. Why shouldn't I?" This boy is now a prominent young attorney. In contrast, a little girl at the age of 5, when asked what she wanted Santa Claus to bring her, answered curtly: "Santa Claus is only for babies, and I am a big girl."

It is amusing at times to hear people argue about whether it is right or wrong to impress the Santa Claus idea on the mind of a young child. Some parents, otherwise sensible, actually feel guilty about "fooling the child" when the subject is mentioned. This is particularly true of some ultramodern parents. They argue that the child will become disappointed when he suddenly discovers that Santa Claus is not what he was taught to believe. One mother—in order to divert her 6 year old boy's attention from Santa Claus—compromised by taking her son to see the motion picture "Snow White and the Seven Dwarfs." The school was raising a fund for the needy so Santa Claus would not miss any one in the district. The little fellow in all innocence raised his hand to ask if his family would be included. He was among the needy, he pleaded, because his parents did not believe in Santa Claus. His mother was well educated, but entirely devoid of a sense of humor. She was furious when she heard the story. "No one has the right to meddle in our domestic affairs," she protested.

Then there is the case of Michael who became skeptical at the age of 7 years. A young man was hired by a neighborhood department store as Santa Claus for the season. Whether it was poor judgment, or viciousness on his part, as Mrs. S. believed, is beside the point. The fact remains that the young man against his own interests began a campaign of disillusionment. To add insult to injured feelings, he challenged the youngsters to ask their parents if what he said was untrue. Michael being an impressionable lad, took the challenge seriously. With the S. family it became a matter not of the boy's personal reactions. They considered it a religious problem.

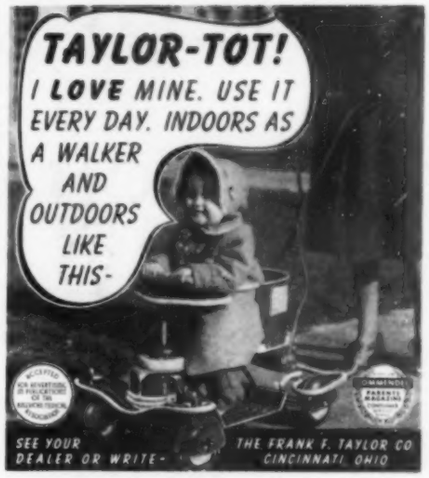
"What should one tell a child about Santa Claus?" many parents ask. A direct answer to this question is obviously lacking. Children look on Santa Claus as a highly romantic figure with physical endurance equaled only by his gift-bearing capacity, which in some quarters seems unlimited. His greatest appeal, however, is based on the juvenile love for adventure. The sociologic and religious aspects are of minor importance to the child. Children grow up automatically with incontestible faith in Santa Claus and his beneficence. Their curiosity on things in general is great to be sure as evidenced by innumerable questions. On the subject of Santa Claus, aside from his adventurous nature, the chief interest lies in "What will he bring me?"

To the pure psychologist and his disciples, this is obviously a wrong philosophy for a youngster to nurture, or for parents to encourage. Such training, they maintain, leads to selfishness. Fooling the child is morally inconceivable, and from the practical point of view it sets a poor example. Furthermore, training of this type usually has a tendency to boomerang. This is sound reasoning, and parents of Mrs. Smith's pattern would do well to consider it seriously.

Those who feel that in cultivating the idea of Santa Claus, they fool the child would do well to omit this religious character from the Christmas scene. There are no circumstances which justify taking advantage of a child's innocence or his credulity, even in fun. However, it is difficult and often impossible to ignore this universal figure in the realm of childhood. Children believe in Santa Claus because he satisfies certain inherent psychologic functions. It would be unfair to deprive a youngster of these innocent indulgences.

As to the possible shock and disillusionment, when the child be-

(Continued on page 1022)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BOOKS ON HEALTH

The Secret of Better Health

By Harold J. Reilly. Cloth. Price, $2.50. Pp. 221. New York: Carlyle House, 1941.

This is a good book as far as its advice on exercise goes. The author, announcing his objection to killing customers even if they pay for it, repeats again and again the wholesome advice given by physicians, to temper exercise to the needs and the abilities of the body, to avoid week-ends of strenuous physical effort sandwiched in between weeks of sedentary living, and to base your exercise program on a thorough physical check-up by your physician. It is also a good book so far as it pays the author's disrespects to the bulging-biceps-tiger-skin-mail-order-mimeograph school of muscle-men who offer to make a Tarzan out of a Milquetoast in a week or try to get your money back. Big muscles for their own sake, he wisely points out, are of no use to the average man, and do not indicate good health or even, for that matter, sound physical condition.

The exercises, named up to the minute with national defense in mind (dive bomber, air raid alarm, etc.) follow more or less the well-known lines familiar to all exercise addicts, but they are advised with more wisdom and restraint than is often the case. Exercises are graded with respect to their purpose and the condition and abilities of the patient.

This would be an excellent book if certain definite errors were eliminated. The importance of exercise is overstressed; in fact, more space is devoted to selling the idea of exercise and "the Life o'Reilly" than to the exercises themselves. Many of the claims made for the cure of symptoms should be less inclusive.

The dietary advice is often questionable, as when the old and discredited "compatible-eating" idea is introduced, and the reader is advised not to mix proteins and carbohydrates in a reducing diet, an injunction violated in a later chapter when a menu includes meat and pie (or cake). The emphasis placed on honey is not justified; this excellent sweet is no better as a source of quick energy, nor is it less fattening, calory for calory, than other sweets. Soy beans are recommended "because they are without fat"; the fact is that they contain about 20 grams of fat per 100 grams of edible portion, and are among the fattiest vegetables known. The reducing diets mentioned are dangerously close to starvation diets, especially with reference to fat-soluble vitamins and the B complex.

"Cobbler, stick to thy last."

W. W. Bauer, M.D.

L. Emmett Holt, Pioneer of a Children's Century

By R. L. Duffus and L. Emmett Holt, Jr., M.D. Cloth. Price, $3. Pp. 295. Illustrated. New York: D. Appleton-Century Company, 1940.

The biographic subject of this book was an eminent pediatrician of the "old school" whose influence on what was, in his day, a new field of medical practice was almost incalculable. His professional life spanned the years from 1880 to his death in 1924. This period saw the development of specialism in the field of diseases of children, coupled with the most rapid decrease in infant mortality which the world has ever seen. Trained in the days when medical education was brief and sketchy and consisting almost exclusively of formal lectures without laboratory work, Dr. Holt nevertheless grasped the significance of bacteriology and other laboratory contributions to medicine. He thus exerted a pioneer influence on such important factors as the milk supply in its relation to infant disease and death.

This biography is, however, of great interest in its reflection of Dr. Holt's personality as apart from his professional life and the developments in child care which occurred during it. He is of typical New England ancestry, astonishing in the persistence of qualities which are constantly reflected even in the life he led amid the turmoil of New York City. To the end, his philosophy, as reflected in letters to his sons, represented the intense moral and spiritual attributes long associated with the Puritan temperament. In Dr. Holt, as apparently in most others of the same stock, gayety was lacking, although not humor. Self discipline both for himself and those he loved was throughout a constant motivating force. The book reflects a character of unusual strength, much charm and a period of medical development of great importance.

E. P. Jordan, M.D.

Only the Brave and Other Poems

By Grantland Rice. Cloth. Price, $1. Pp. 150. New York: A. S. Barnes and Company, 1941.

For many years the dean of American sports writers has been casting into rhythms words of courage and inspiration based on his observations of athletes in combat. He has been a gregarious soul and he has reflected also his friendships and sentiments and much of the humor that pervades his daily life. He himself plays an excellent game of golf and his yearning for that sport is expressed in several special poems in this collection. These poems will bear repeated readings at dinners when the sportsmen assemble to award the trophies and many of them will bear learning and repeated recitation.

M. F.

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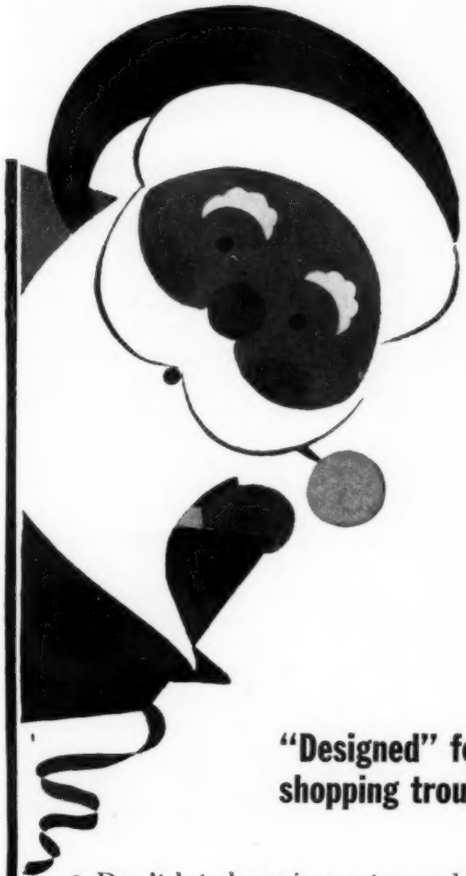

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Private Physicians and School Health

The school health program, when properly organized, can be one of the most important influences in the community for promoting health protection and for raising the level of healthful living

By GEORGE M. LYON

FEW things can be so detrimental to the proper development of adequate community health services as the refusal of a city and a county government to cooperate in the responsibility for and administration of a community health organization. The school health program, when properly organized, can be one of the most important influences in the community for promoting health protection and for raising the level of healthful living and efficiency. Through this medium all other facilities for promoting health protection can be brought to bear, either directly or indirectly, far more effectively than these related services can be developed singly. The school health program can never make its optimal contribution unless properly integrated with the related community health services, including the properly related professional groups. Coordination can be accomplished early when there is developed the proper kind of mutual understanding and cooperation between the private physician and the schools.

In Huntington, West Va., there was no real public health organization. The city health officer was a surgeon employed on a part-time basis to do surgery and direct the medical services of the indigent sick. Other physicians were employed on a part-time basis; not as public health workers, but as physicians to the indigent sick.

Outside the city, with activities limited to the rural parts of the county, the county court employed one part-time health officer and one or two physicians to care for the indigent sick. One nurse was employed under the name of a public health nurse, but she was forced to act as overseer of the poor. A large amount of her time and effort also had to be devoted to medical relief activities, rather than to public health.

Within the city the school health program had been spending between $18,000 to $28,000 a year for medical relief and personal immunization, with essentially no attempt at school health education, and without consideration for the educational contribution of the general school health program. There was no school health program in the county other than the urban independent district.

During the fall of 1933, the county unit form of school administration was introduced. When this new law became effective, new boards of education were appointed by the governor to serve until the next election took place. At the same time, a tax-levy limitation amendment became effective which further handicapped the activities of the new county board of education so that they had almost no funds for these so-called maintenance services. Yet, at the same time, they were by law denied the opportunity of otherwise raising funds for these purposes. They appealed to the local county medical society for aid. The Cabell County Medical Society organized a committee on school health problems.

During the first year there was actually less than $1,000 with which to finance the school health program of the entire county, with a school population of 24,208, of which 16,695 were urban and 7,513 were rural. With such limited finances and with such a volunteer or semi-volunteer staff, only absolute essentials could be selected and provided.

The first step in the operation of the program was to have the county board of education appoint an advisory group which would represent the medical profession, the dental profession, the school administrators and the engineering profession. Accordingly, the Advisory Health Council to the County Board of Education was officially appointed by the board of education on recommendation of the committee on school health problems for the medical society. All the members of this committee were included on this council. There were two dentists representing the local dental society, one engineer expert in the problems of heating and ventilating and one school executive. Three child specialists, one internist, one surgeon and one rural physician made up the representation from the county medical society.

The next step was for this advisory group to become familiar with suitable standards and trends of school health practice. Five particular sources were used:

(1) The 1930 Report of the Joint Committee on Health Problems and Education. From time to time other materials were supplied through the Joint Committee to be used for modifying or extending original plans.

(2) The publications of the Third White House Conference on Child Health and Protection, particularly the volume on The School Health Program and the pamphlet on Administration of the School Health Program.

(3) Dr. Hiscock's "Community Health Organization," an invaluable aid in a study of the organization of community health services.

(4) Pamphlets obtained through the office of the Commissioner of Education.

Because of the inadequate development of the local community health services, it was considered necessary to emphasize to physicians, health workers and teachers the necessity for simplifying and

more clearly stating the objectives of the various health programs so that there could be a minimum of confusion and overlapping and a maximum of integration and coordination.

The medical relief program was probably more adequately provided for than the other two programs, for besides the official agencies financed from funds from the city and the county there were active volunteer relief agencies.

The school health program was, from the point of view of government, somewhat more advantageously organized, for it was under a county board of education on a "county unit" basis. As planned, medical relief was not to be a part of this program. Health protection within the schools and school health education were designated as definite objectives.

When the program was initiated there was no organized medical relief service for children of school age. There was a Babies Clinic for children up to 6 years of age, but none for older children. The Junior League of Huntington agreed to organize and maintain a Children's Clinic for children of school age a service which would be complementary to the school health program. The medical staff was provided from the Cabell County Medical Society through the Committee on Medical Relief Problems. Children requiring hospitalization from the Clinic were provided medical and surgical services free from the hospital staffs. Children requiring treatment at home were usually cared for by city physicians, although occasionally by volunteer physicians.

School children in need of medical relief were reported by the teacher or principal to the Supervisor of Medical Relief, a member of the school health staff, who made the appointment with the Children's Clinic and all essential home contacts preparatory to and subsequent to the clinic visits to see that each problem was properly attended to and properly followed up. An important phase of this followup was a report by the teacher of the results of the service.

The Children's Clinic met three days weekly, had all specialties represented, averaged 20 to 30 children a clinic session, employed a full time nurse, a full time social

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worker and had many volunteer lay and professional workers.

In the immunization phase of the community public health program, the schools only apply educational procedures and attempts to provide motivation by means of stimulating devices and publicity directed toward the utilization of the facilities which exist within the community for providing the various immunization services and for providing health protection services through periodic medical and dental supervision. The physicians and dentists of Cabell County have, since the fall of 1931, carried on a weekly public health hour every Friday from 3:00 to 4:00 p. m. in the offices of the individual physicians and dentists. From the West Virginia State Department of Health, through the offices of the County Health Department, these physicians are supplied with the biologicals for this service at no cost to them. In turn, the physicians make a special "public health hour" fee for the services rendered during this particular hour. The fee for the service is in direct proportion to the ability of the parents to pay, as determined by them. If the family cannot afford a fee, a service is provided free. Health examinations are conducted for infants, runabouts, school children and for high school students before entrance to physical education classes. Other services include diphtheria immunization, Schick test, smallpox vaccination, typhoid fever immunization, tuberculin test and dental health examination.

The role of the schools, therefore, in this program does not extend beyond that of providing stimulation and motivation to the utilization of facilities for health protection which exist within the community.

There Is a Santa Claus

(*Continued from page 1017*)

comes aware of having "been fooled," I cannot recall a single youngster who to my knowledge became shocked at the discovery, or one who suffered the slightest disappointment from such discovery. How a mother arrives at the conclusion that talking about Santa Claus constitutes a breach of honesty and that reading fairy tales to her child tends to elevate family intellect is difficult to reconcile.

Santa Claus, like The Three Bears, Snow White, Cinderella and all the other innumerable Fairy Tale characters, has become a part of child tradition. Some of the accepted bedtime recitations, it is true, exert doubtful psychologic effects on sensitive young minds, yet problem cases originating from this source are rarely encountered. The child thrives on, and develops in, a world of make-believe. Whether he is thus reliving early racial experiences is only of academic importance. The fact remains that he loves it, and parents must recognize this age of pretending as an integral part of certain stages of the child's mental and social unfolding. The only deception involved is that which is in the minds of adults addicted to sophistry. One of the elementary qualities of life is adaptation. A child, given the opportunity to exercise this basic biologic instinct will experience little difficulty in accepting social and cultural standards befitting his age.

Children are seldom fooled by their parents. A youngster will believe what he considers is in his interest and to his advantage. He does not become aware of Santa Claus suddenly. He simply grows to appreciate him. There is no more deception in this character than there is in many figures of the story book which are read to children, or by them, the world over. The child has a concept of truth that in many ways is not comparable to mature reasoning. He is not deceived by the fantastic achievement of the Mouse when she saves the life and liberty of the Lion, any more than is his parent by the daring escapades of the sleuth in a Van Dyne murder mystery. Nor does he shed tears over his changing perspective as he matures.

Children often and innocently fool their parents by mutual enter-

tainment, and many children tolerate some of our funny tales because of our parental zeal rather than their own childish nature. During her preschool years my daughter often asked me to tell her stories. On many occasions I had to improvise bits that had no rhyme or reason. In one instance, after my modest stock of fairy tales had become exhausted, I invented a race between a squirrel and a rabbit. This impossible story made such an impression that I had to repeat it innumerable times, always to the delight of the child. On her eighth birthday, tired from a day of celebrating, she confessed that she never really cared much for the story, that it was foolish, that squirrels and rabbits never talk. "But," she patronized, "As long as you have such a good time telling it, go ahead, I'll listen and laugh."

A Clean Bill of Health for Apples

(Continued from page 966)

larly the opportunity to observe the patient over longer periods of time, would be needed to establish definite diagnoses of many of the diseases (listed in tables in the report). Enough evidence, however, was usually available to establish or rule out lead or arsenic injury."

Another significant paragraph: "It is known that lead can be stored in the body, following periods of heavy intake, and that it is eliminated, under normal circumstances, with the passage of time. These data indicate that it does not require much time for a population of former orchardists to so deplete the stores of lead and arsenic within their bodies that their urinary lead, blood lead and urinary arsenic values fall to the levels of men who never had an unusual exposure to these metals."

The report runs the gamut of ills to which humanity is heir. Of the Wenatcheeans' heart disease incidence it says: "No more frequently than in the general population." Of blood pressure: "The average blood pressure of the persons in this study are no higher by age groups, and in most cases are lower, than those of industrial workers studied by the Public Health Service." Of skin disorders: "The paucity of all forms of dermatitis seems to indicate that dermatitis is not a significant toxic manifestation of lead arsenate." Of eye irritation: "Close study of the orchardists failed to establish lead arsenate as the cause of the difference." Of nervous disorders: "Most of the organic nervous disorders observed represented either chronic disease states or the residuals of acute nervous illnesses," adding, a few words later on: "This is about the same degree of prevalence observed . . . among the rural white inhabitants of Cattaraugus County, N. Y." One would assume the latter to be pretty healthy. Kidney diseases: "None of these diseases was unusually prevalent." Of patients found to be suffering from tuberculosis: "Nothing was noted during this period of observation to lead one to suspect that their lead arsenate exposure was having an adverse effect on their pulmonary disease."

On the whole, the findings of the survey are contained in these words, given in the summary of the report: "Insofar as comparative data for other populations are available, no evidence was found that any of these forms of ill health was more prevalent in this region than elsewhere, or that any cases of chronic diseases had been caused or influenced by lead arsenate exposure."

[NOTE: *Apples, with their health-giving vitamins A, B, C and G; their valuable minerals, iron, calcium and phosphorus, and their pure appeal to the palate, are one of Nature's finest gifts to mankind. We must do everything possible to insure their continued availability. No doubt there have been instances of persons who responded unfavorably even to small amounts of the toxic substances used as sprays. But proper handling and washing of the fruit reduces this hazard to infinitesimal proportions, as shown by the report of the United States Public Health Service. Meanwhile research is continuing for sprays free from the inherent dangers of lead and arsenic.*—ED.]

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Medical News OF THE MONTH

Pectin as a Blood Substitute

Pointing out that the present emergency reemphasizes the problem of obtaining large quantities of human blood and blood plasma (the liquid portion of the blood), F. W. Hartman, V. Schelling, H. N. Harkins and B. Brush, Detroit, state in the *Annals of Surgery* that they believe that some substitute for these two substances must be found and suggest pectin to fill this need. Pectin is a substance found in many fruits which, when suitably combined with sugar and fruit acids, makes jelly. From their preliminary findings in the use of the substance in human beings, the Detroiters believe that it is a logical substitute for blood and one for which there is an abundant supply easily and readily available.

Parachute Injuries

Contrary to the popular belief that injuries among parachute troops of the United States Army are alarmingly high, they have been surprisingly low, William J. Tobin, Washington, D. C.; Laurence J. Cohen, New York, and John T. Vandover, St. Louis, First Lieutenants, M. C., United States Army, report in *The Journal of the American Medical Association.*

Their finding is based on accurate records which have been kept of all injuries since the organization of the 501st and 502d Parachute Battalions and the Group Parachute School of the United States Army. They say that "the percentage of injuries has decreased during the latter months of parachute jumping, and it is felt that the decreasing number of injuries can be attributed mainly to the improved methods of preliminary training.

"From Aug. 1, 1940 to Aug. 1, 1941 there have been four thousand, four hundred and ninety parachute jumps, and a total of one hundred and twenty-one injuries, or 2.4 per cent. Of these, only thirty-two, or 0.7 per cent, were severe enough for hospital admission. One parachutist, jumping at 750 feet, was killed when his main and emergency parachutes failed to open completely. Jumping at this height has been discontinued, owing to inadequate time that is required for the parachutist to use his second chute. Approximately eight hundred men took part in these jumps, with each man making an average of five or six jumps. Only 1 out of every 4 cases required hospital admission. Eighty-nine cases included such injuries as contusions, bruises and sprains of a lesser degree. An average of from five to six days was allowed for the treatment, and during this period the men were usually removed from duty."

Sulfathiazole Ointment for Skin Infections

An ointment containing sulfathiazole, one of the derivatives of sulfanilamide, appeared to be efficacious in the treatment of pus-producing infections of the skin, Edmund L. Keeney, Richard H. Pembroke, Ferdinand E. Chatard and James M. Ziegler, Baltimore, report in *The Journal of the American Medical Association.*

A 5 per cent sulfathiazole ointment, they say, produced promising results in the treatment of 69 patients with such skin conditions as infected infantile and adult eczema, seborrheic dermatitis (oily eruptions of the skin), impetigo (an inflammatory skin disease characterized by isolated pustules), common acne, infected hair follicles and furunculosis (the disease condition that accompanies the appearance of a crop of boils).

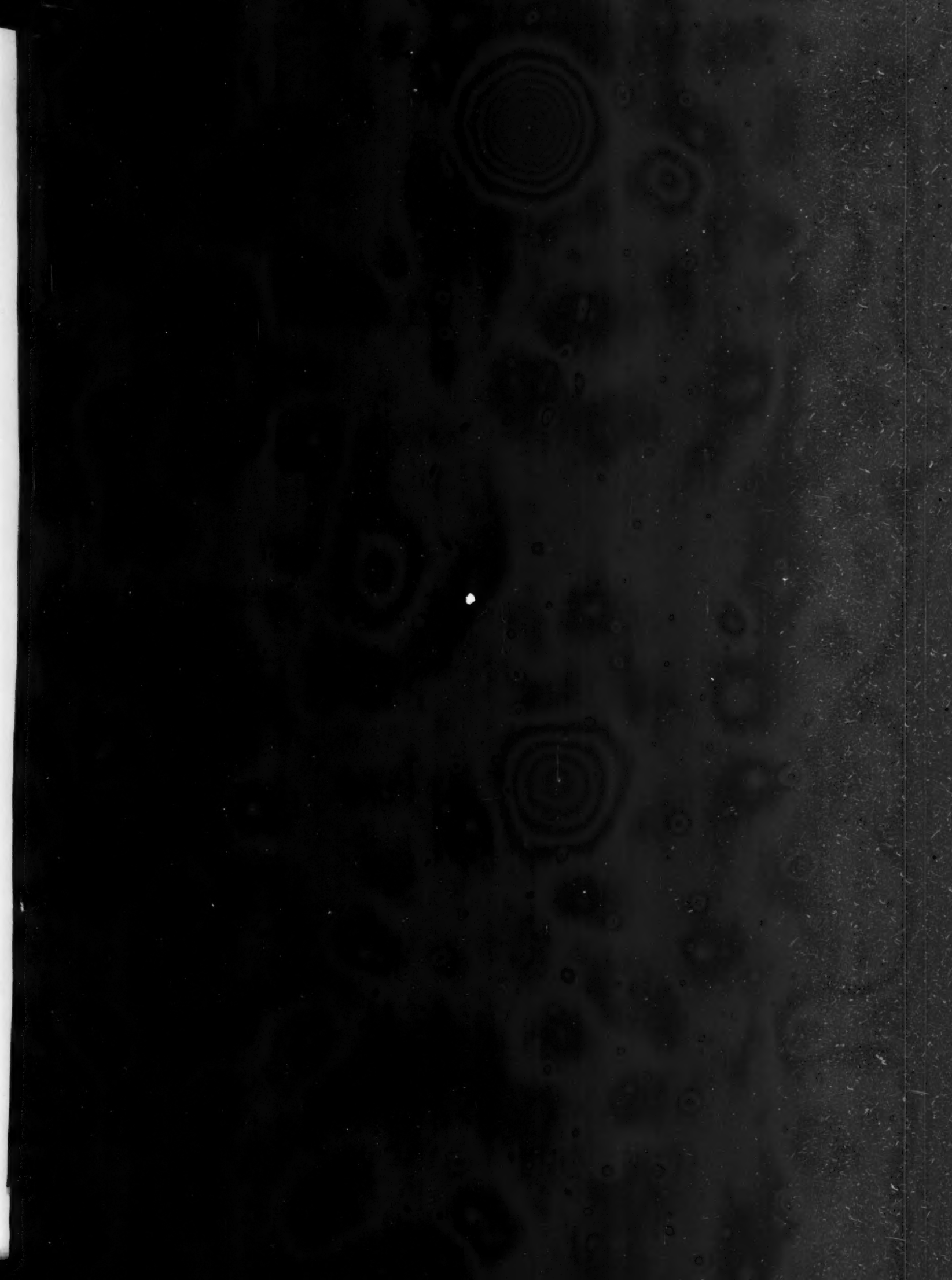
Thirty-five patients with poison ivy blisters, 33 with cuts and 4 with small second degree burns also were treated with local applications of sulfathiazole ointment. In all instances, the authors report, the condition healed without infection.

"This seems an important observation," the four men say, "as physicians generally refrain from prescribing an ointment to patients with acute vesicular dermatitis [inflamed blisters] because of the possibility of promoting a secondary infection."

Vitamin Deficiency and Mental Ailments

Results obtained from administering nicotinic acid, one of the vitamin B complex, to 29 patients presenting symptoms of severe active psychosis, leads V. P. Sydenstricker and H. M. Cleckley, Augusta, Ga., to believe that the symptoms of many patients with certain types of mental ailments may be relieved by such treatment, they report in the *American Journal of Psychiatry.* Nicotinic acid is the vitamin used to cure pellagra. Twenty-two of the patients were relieved by the vitamin therapy, the authors report. Usually the response to nicotinic acid was prompt, often spectacular, they say, whereas other previous treatment was of no benefit. Their experience leads them to believe that the mental condition of these patients was caused by an insufficiency of this vitamin and that many similar cases may be found.

Mental Deterioration from Bromo-Seltzer

The case of a business man who suffered a progressive mental deterioration, which was present for eleven to fifteen years and culminated in a state of complete mental confusion, amnesia, disorientation and hallucinosis resulting from continuous self medication with large quantities of bromo-seltzer, is reported in *The Journal of the American Medical Association* by Paul C. Bucy, Thomas A. Weaver and Edward H. Camp, Chicago. Discontinuance of the drug resulted in distinct improvement.

The authors point out that "numerous reports have called attention to the fact that severe psychosis, with mental deterioration, loss of memory, delirium and hallucinosis, is not uncommon as a result of intoxication with bromides. . . ."